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An Evaluation of the Use of People Analytics and Talent Management in Improving Human Resource Quality and Productivity in Manufacturing Companies in West Java

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ABSTRACT

This study aims to evaluate the use of people analytics and talent management in improving the quality and productivity of human resources in manufacturing companies in West Java. The rapid development of digital transformation and Industry 4.0 has encouraged manufacturing organizations to adopt data-driven human resource management practices to enhance operational efficiency and workforce competitiveness. This study uses a quantitative research approach involving 150 respondents from manufacturing companies in West Java. Data were collected through questionnaires using a Likert scale and analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 3 software. The variables examined include people analytics, talent management, human resource quality, and human resource productivity. The results indicate that people analytics has a positive and significant effect on human resource quality with a path coefficient of 0.381 and a T-statistic of 5.842. Talent management also positively affects human resource quality with a path coefficient of 0.472 and a T-statistic of 7.116. Furthermore, human resource quality significantly influences human resource productivity with a path coefficient of 0.844 and a T-statistic of 18.527. The findings demonstrate that the integration of people analytics and talent management contributes significantly to improving workforce competency, professionalism, and productivity in manufacturing organizations. This study provides theoretical contributions to human resource management literature and practical implications for manufacturing companies in developing data-driven HR strategies and sustainable talent development systems to improve organizational competitiveness.

Keywords: *People Analytics, Talent Management, Human Resource Quality, Human Resource Productivity, Manufacturing Companies*

1. INTRODUCTION

The manufacturing industry has become one of the most important sectors supporting economic growth, employment generation, industrial competitiveness, and export performance in Indonesia [1], [2]. In particular, West Java has emerged as one of the country's largest manufacturing centers, hosting industries such as automotive, textiles, electronics, food processing, and consumer goods [3], [4]. The rapid expansion of industrial digitalization and Industry 4.0 has transformed the operational landscape of manufacturing companies, forcing organizations to improve efficiency, innovation capability, and workforce performance to maintain competitiveness in increasingly dynamic global markets [5], [6]. Under these conditions, human resources are no longer viewed merely as operational labor, but as strategic organizational assets that significantly influence sustainability and long-term competitive advantage.

The growing integration of digital technology into manufacturing operations has encouraged organizations to adopt more advanced human resource management systems. One important development is the implementation of people analytics, which refers to the use of employee-related data, statistical analysis, and digital systems to support evidence-based human resource decision-making [7], [8]. Through people analytics, organizations can evaluate employee

performance trends, attendance patterns, competencies, engagement levels, and productivity outcomes more objectively and accurately. This analytical approach enables companies to identify workforce problems earlier, optimize talent allocation, and improve organizational decision-making processes. In manufacturing industries where operational consistency and production efficiency are highly essential, the application of people analytics is increasingly considered a strategic tool for improving workforce effectiveness and organizational performance.

Alongside the development of people analytics, talent management has also become an increasingly important organizational strategy in the manufacturing sector. Manufacturing companies are currently facing multiple challenges, including technological adaptation, employee turnover, competency gaps, and the increasing demand for continuous workforce development [9]. Talent management practices such as recruitment planning, employee training, succession planning, performance appraisal, and career development are essential in ensuring that organizations possess competent human resources capable of adapting to industrial transformation [9]–[11]. Effective talent management not only strengthens employee competencies but also improves organizational productivity, innovation capability, and workforce retention. Consequently, companies are increasingly required to develop integrated talent strategies that support sustainable organizational performance in the era of industrial digitalization.

Despite the growing importance of digital human resource practices, many manufacturing companies in Indonesia still encounter difficulties in implementing integrated and data-driven human resource management systems. Several organizations continue to rely on conventional HR practices that are less adaptive to technological transformation and analytical decision-making. Employee development, workforce allocation, and performance evaluations are often conducted subjectively without sufficient analytical support, potentially reducing organizational efficiency and limiting employee productivity optimization. Furthermore, manufacturing organizations frequently experience challenges in retaining highly talented employees due to increasing labor market competition and changing workforce expectations in the digital era. These conditions indicate that organizations require more effective integration between people analytics and talent management to improve human resource quality and organizational competitiveness.

Human resource quality is considered a critical factor that connects organizational strategies with operational productivity in manufacturing companies. Employees with strong competencies, adaptability, creativity, and technical expertise are more capable of supporting efficient manufacturing processes, minimizing operational errors, maintaining product quality standards, and encouraging innovation [12], [13]. Therefore, organizations need to continuously improve workforce quality through sustainable talent development programs and data-driven HR policies. At the same time, employee productivity remains one of the most important organizational objectives because it directly influences production output, operational costs, profitability, and overall company performance. Employees who receive career development opportunities, competency enhancement programs, organizational support, and constructive performance feedback tend to demonstrate higher productivity and stronger work performance. As a result, manufacturing companies increasingly recognize the importance of aligning digital HR systems and talent management strategies with productivity improvement objectives.

Several previous studies have discussed the influence of digital human resource management, workforce analytics, and talent management on organizational performance. However, empirical studies that specifically examine the simultaneous relationship between people

analytics, talent management, human resource quality, and employee productivity in manufacturing companies in West Java remain relatively limited. Most earlier studies tend to examine technology adoption and talent management separately without integrating both variables into a comprehensive workforce productivity framework. Therefore, this study aims to analyze the relationships among people analytics, talent management, human resource quality, and employee productivity within manufacturing companies in West Java. The findings of this study are expected to contribute theoretically by enriching the literature on digital human resource management and workforce productivity, while also providing practical recommendations for manufacturing companies in designing more effective human resource strategies based on analytics and sustainable talent development systems.

2. LITERATURE REVIEW

2.1 People Analytics

People analytics refers to the process of collecting, analyzing, and interpreting employee-related data to support strategic decision-making in human resource management through the integration of statistical analysis, information systems, and data-driven management practices [14]–[16]. In manufacturing companies, the implementation of people analytics is increasingly important because operational productivity and workforce efficiency depend heavily on accurate human resource decisions. Through people analytics, organizations can evaluate employee behavior, productivity, engagement, competency development, absenteeism, and turnover trends more objectively while supporting evidence-based decision-making and reducing subjectivity in HR practices. The use of integrated HR information systems and predictive workforce analysis also enables companies to identify productivity gaps [17], improve workforce allocation, optimize employee performance management, and strengthen human resource quality to support organizational effectiveness and competitiveness.

2.2 Talent Management

Talent management is a strategic organizational approach aimed at attracting, developing, retaining, and optimizing employees with high potential and competencies to support long-term organizational sustainability and competitiveness. In manufacturing companies, talent management becomes increasingly important due to rapid technological advancement, industrial automation, and growing workforce competency demands that require employees to possess technical skills, adaptability, creativity, and problem-solving abilities [18], [19]. Effective talent management practices such as recruitment, training, career development, succession planning, performance appraisal, and employee retention contribute significantly to workforce quality, employee motivation, organizational productivity, and innovation capability [9], [10]. Companies with strong talent management systems are generally more capable of maintaining workforce stability, reducing turnover rates, and achieving sustainable competitive advantage in dynamic industrial environments.

2.3 Human Resource Quality

Human resource quality refers to the level of employee competence, knowledge, skills, adaptability, discipline, and professionalism in carrying out organizational

responsibilities effectively. In manufacturing companies, high-quality human resources play an important role in improving operational efficiency, production consistency, innovation capability, and organizational competitiveness [20], [21]. Workforce quality is influenced by factors such as education, training, technological adaptation, work experience, and management practices, while employees are increasingly required to possess both technical and non-technical competencies, including teamwork, communication, digital literacy, and problem-solving abilities [22], [23]. The integration of people analytics and talent management is considered essential for improving workforce quality through data-driven competency identification, employee development programs, training, mentoring, and career planning, ultimately supporting organizational productivity and operational performance in competitive industrial environments.

2.4 Human Resource Productivity

Human resource productivity refers to the ability of employees to generate optimal work output efficiently and effectively in supporting organizational operations and performance. In manufacturing companies, productivity is a critical indicator because it directly influences production capacity, operational costs, product quality, and organizational competitiveness. Employee productivity is affected by various factors, including workforce competence, organizational support, technology adoption, leadership, motivation, and management systems [19], [24]. The implementation of people analytics supports productivity improvement through continuous workforce monitoring, data-driven performance evaluation, and more effective workforce allocation, while talent management contributes through competency development, training, career opportunities, and employee retention strategies [25], [26]. In addition, human resource quality plays an important intermediary role because employees with strong competencies, adaptability, and problem-solving abilities tend to perform tasks more efficiently, support operational consistency, and contribute positively to organizational productivity and innovation capability.

2.5 Conceptual Framework

This study examines the relationship between people analytics, talent management, human resource quality, and human resource productivity in manufacturing companies in West Java. People analytics and talent management are positioned as independent variables that influence human resource quality, while human resource quality is expected to positively affect human resource productivity. This framework reflects the assumption that data-driven human resource management and structured talent development practices can strengthen employee competencies, improve workforce effectiveness, and support organizational productivity in manufacturing industries.

The hypothesis development in this study is based on the assumption that people analytics enables organizations to improve workforce quality through employee data analysis, competency mapping, and evidence-based workforce development strategies. Talent management is also expected to positively influence human resource quality through recruitment, training, career development, and employee retention practices that support workforce competency improvement. Furthermore, employees with high competencies, adaptability, and professionalism are generally more capable of

performing tasks effectively and efficiently, thereby contributing positively to operational performance and human resource productivity in manufacturing companies.

H1: People analytics has a positive effect on human resource quality.

H2: Talent management has a positive effect on human resource quality.

H3: Human resource quality has a positive effect on human resource productivity.

3. METHODS

3.1 Research Approach

This study employs a quantitative research approach to examine the influence of people analytics and talent management on human resource quality and human resource productivity in manufacturing companies in West Java. A quantitative approach is considered appropriate because the research aims to analyze causal relationships among variables using measurable numerical data and statistical analysis [27]. The study applies an explanatory research design to explain the relationships between the independent variables, namely people analytics and talent management, the mediating variable of human resource quality, and the dependent variable of human resource productivity. The research model is analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with the assistance of SmartPLS software to test the hypotheses objectively and systematically.

3.2 Research Location and Object

The research was conducted in manufacturing companies located in West Java, which was selected as the study location because it is one of the largest industrial regions in Indonesia with a high concentration of manufacturing sectors such as automotive, electronics, textiles, food processing, and consumer goods. Manufacturing companies in this region are increasingly adopting digital technologies and modern human resource management practices, making them relevant for examining the implementation of people analytics and talent management. The object of this study focuses on employees and human resource management practices within manufacturing companies, particularly those related to workforce analytics, talent development, employee competency, and productivity improvement.

3.3 Population and Sample

The population in this study consists of employees working in manufacturing companies located in West Java, particularly employees who are familiar with organizational human resource management practices such as workforce data systems, performance evaluation, training programs, and productivity management. Due to limitations related to time, accessibility, and organizational coverage, this study applies a purposive sampling technique in selecting respondents based on specific criteria relevant to the research objectives, including employees who have worked for at least one year, understand HR practices and performance evaluation systems, and are directly or indirectly involved in operational and productivity activities. The total number of respondents in this study is 150 employees, and this sample size is considered adequate for analysis using Structural Equation Modeling–Partial Least Squares (SEM-PLS) because the method is capable of analyzing complex models with relatively moderate sample sizes.

3.4 Types and Sources of Data

This study uses primary data obtained directly from respondents through questionnaire distribution to examine employee perceptions regarding the implementation of people analytics, talent management, human resource quality, and human resource productivity. The questionnaires were distributed both online and offline to employees working in manufacturing companies in West

Java, where respondents were asked to provide answers based on their experiences and perceptions related to organizational human resource management practices. In addition to primary data, this study also utilizes secondary data obtained from journals, books, scientific articles, organizational reports, and previous studies to support the research framework and theoretical foundation related to people analytics, talent management, workforce quality, and productivity.

3.5 Data Collection Technique

The main data collection technique used in this study is a questionnaire survey designed using closed-ended statements measured with a five-point Likert scale to evaluate respondent perceptions and attitudes toward each research variable. The scale categories consist of 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. The questionnaire items were developed based on indicators derived from previous literature and were adjusted to the context of manufacturing companies to ensure relevance to the implementation of people analytics, talent management, human resource quality, and human resource productivity.

3.6 Operational Definition of Variables

The operational variables used in this study consist of people analytics (X1), talent management (X2), human resource quality (Y1), and human resource productivity (Y2). People analytics refers to the use of employee-related data and analytical systems to support strategic human resource decision-making, measured through indicators such as HR data integration, workforce performance monitoring, predictive workforce analysis, data-driven HR decision-making, and the use of employee information systems. Talent management refers to organizational efforts in attracting, developing, retaining, and optimizing employee potential, measured through recruitment effectiveness, employee training programs, career development opportunities, succession planning, employee retention strategies, and performance appraisal systems. Human resource quality refers to employee competence, professionalism, adaptability, and capability in performing organizational tasks, measured through employee competency, technical skills, problem-solving ability, work discipline, adaptability to technological change, and professional capability. Meanwhile, human resource productivity refers to employee effectiveness and efficiency in generating organizational work output, measured through work efficiency, production effectiveness, work output consistency, task completion capability, employee performance achievement, and operational contribution.

3.7 Data Analysis Technique

The data analysis method used in this study is Structural Equation Modeling–Partial Least Squares (SEM-PLS) with the assistance of SmartPLS software because it is suitable for predictive and exploratory research models involving multiple latent variables and complex relationships [28]. The SEM-PLS analysis consists of outer model evaluation and inner model evaluation. The outer model evaluation aims to test the validity and reliability of research indicators through convergent validity using loading factor and Average Variance Extracted (AVE), discriminant validity using cross-loading and Fornell-Larcker Criterion, as well as reliability testing using Cronbach's Alpha and Composite Reliability values, where constructs are considered valid and reliable if the values exceed the established thresholds. Meanwhile, the inner model evaluation is conducted to analyze structural relationships among variables through the coefficient of determination (R-Square), predictive relevance (Q-Square), and hypothesis testing using the bootstrapping method in SmartPLS 3, where hypotheses are accepted if the T-statistic value exceeds 1.96 and the P-value is below 0.05.

4. RESULTS AND DISCUSSION

4.1 Description Characteristics

The respondents in this study consisted of 150 employees working in manufacturing companies located in West Java who were selected based on their involvement in operational activities and understanding of organizational human resource management practices. Based on gender distribution, male respondents dominated the study with 92 respondents (61.3%), while female respondents accounted for 58 respondents (38.7%). This distribution reflects the workforce structure commonly found in manufacturing companies, where male employees are generally more dominant in operational and production divisions. In terms of age distribution, most respondents were between 31–40 years old with 62 respondents (41.3%), followed by respondents aged 20–30 years with 48 respondents (32.0%), respondents aged 41–50 years with 29 respondents (19.3%), and respondents aged above 50 years with 11 respondents (7.4%). These findings indicate that productive-age employees dominate manufacturing organizations and are generally more adaptive to digital transformation and organizational changes related to people analytics and talent management systems.

Based on education level, the majority of respondents possessed bachelor's degrees with 71 respondents (47.3%), followed by high school graduates with 37 respondents (24.7%), diploma graduates with 29 respondents (19.3%), and master's degree holders with 13 respondents (8.7%). This result indicates that manufacturing companies increasingly require employees with higher educational qualifications and technical competencies to support organizational productivity and operational effectiveness. The educational background of respondents also reflects the growing importance of workforce competency development in manufacturing industries, particularly in adapting to technological advancement, data-driven management systems, and modern human resource practices.

4.2 Descriptive Analysis of Variables

The descriptive analysis was conducted to evaluate respondent perceptions regarding people analytics, talent management, human resource quality, and human resource productivity.

Table 1. Descriptive Statistics of Variables

Variable	Min	Max	Mean	Standard Deviation
People Analytics	2.10	5.00	4.12	0.621
Talent Management	2.25	5.00	4.18	0.584
Human Resource Quality	2.40	5.00	4.21	0.557
Human Resource Productivity	2.35	5.00	4.26	0.533

The descriptive statistics results indicate that all research variables have relatively high mean values, suggesting that respondents generally perceive the implementation of people analytics, talent management, human resource quality, and human resource productivity positively within manufacturing companies in West Java. Human resource productivity recorded the highest mean value (4.26), followed by human resource quality (4.21), talent management (4.18), and people analytics (4.12), reflecting that organizations have demonstrated relatively strong workforce performance and operational effectiveness. In addition, the relatively low standard deviation values for all variables indicate that respondent answers were fairly consistent and homogeneous, meaning that respondents shared similar perceptions regarding the implementation of digital HR practices, talent development systems, workforce quality, and employee productivity within their organizations.

4.3 SEM-PLS Analysis

The data analysis in this study used Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 3 software. The analysis consisted of outer model evaluation and inner model evaluation.

4.3.1 Outer Model Evaluation

1. Convergent Validity

Convergent validity was evaluated using loading factor and Average Variance Extracted (AVE) values.

Table 2. Loading Factor Results

Indicator	Loading Factor
PA1	0.821
PA2	0.847
PA3	0.861
PA4	0.833
PA5	0.814
TM1	0.852
TM2	0.871
TM3	0.839
TM4	0.856
TM5	0.821
HRQ1	0.845
HRQ2	0.867
HRQ3	0.858
HRQ4	0.836
HRQ5	0.849
HRP1	0.862
HRP2	0.874
HRP3	0.841
HRP4	0.853
HRP5	0.846

The loading factor results show that all research indicators have values above 0.70, ranging from 0.814 to 0.874, indicating that all indicators possess strong convergent validity and are capable of measuring their respective constructs effectively. The people analytics indicators demonstrate loading factor values between 0.814 and 0.861, while talent management indicators range from 0.821 to 0.871, reflecting strong relationships between the indicators and their latent variables. Similarly, the indicators of human resource quality and human resource productivity also show high loading factor values above the recommended threshold, indicating that the measurement model is valid and reliable for explaining employee competency, workforce effectiveness, and productivity in manufacturing companies in West Java. These findings confirm that all indicators used in this study are appropriate for further analysis in the SEM-PLS structural model evaluation.

2. Average Variance Extracted (AVE)

Table 3. AVE Results

Variable	AVE
People Analytics	0.701
Talent Management	0.726
Human Resource Quality	0.718
Human Resource Productivity	0.735

The Average Variance Extracted (AVE) results indicate that all research variables have values above the recommended threshold of 0.50, demonstrating good convergent validity within the measurement model. Human resource productivity recorded the highest AVE value (0.735), followed by talent management (0.726), human resource quality (0.718), and people analytics (0.701).

These results confirm that each construct is capable of explaining more than 50% of the variance of its indicators, indicating that the indicators used in this study are sufficiently representative in measuring their respective latent variables. Therefore, the measurement model can be considered valid and appropriate for further structural model analysis using SEM-PLS in manufacturing companies in West Java.

3. Reliability Test

Table 4. Reliability Test Results

Variable	Cronbach's Alpha	Composite Reliability
People Analytics	0.893	0.921
Talent Management	0.907	0.930
Human Resource Quality	0.901	0.927
Human Resource Productivity	0.912	0.934

The reliability test results indicate that all research variables possess excellent reliability and internal consistency because the Cronbach's Alpha and Composite Reliability values for all constructs exceed the recommended threshold of 0.70. Human resource productivity shows the highest reliability values with a Cronbach's Alpha of 0.912 and Composite Reliability of 0.934, followed by talent management, human resource quality, and people analytics, all of which demonstrate strong measurement consistency. These findings confirm that the indicators used in this study are reliable and capable of consistently measuring their respective latent constructs. Therefore, the measurement model is considered dependable for further structural analysis using SEM-PLS in manufacturing companies in West Java.

4.3.2 Inner Model Evaluation

1. R-Square Test

The R-Square results indicate that the structural model has substantial explanatory power in explaining the relationships among variables in this study. The R-Square value of human resource quality is 0.684, meaning that people analytics and talent management are able to explain 68.4% of the variance in human resource quality, while the remaining 31.6% is influenced by other factors outside the model. Meanwhile, the R-Square value of human resource productivity is 0.712, indicating that human resource quality explains 71.2% of the variance in employee productivity. These findings demonstrate that the variables included in the research model have strong predictive capability and play an important role in influencing workforce quality and productivity within manufacturing companies in West Java.

2. Q-Square Test

The Q-Square results indicate that the structural model possesses good predictive relevance because all Q^2 values are greater than zero. Human resource quality has a Q^2 value of 0.472, while human resource productivity shows a Q^2 value of 0.518, indicating that the model is capable of predicting endogenous variables effectively. These findings demonstrate that the research model has adequate predictive capability in explaining the relationships among people analytics, talent management, human resource quality, and human resource productivity within manufacturing companies in West Java.

4.3.3 Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping procedure in SmartPLS 3.

Table 5. Hypothesis Testing Results

Hypothesis	Path Coefficient	T-Statistic	P-Value	Result
People Analytics → Human Resource Quality	0.381	5.842	0.000	Accepted
Talent Management → Human Resource Quality	0.472	7.116	0.000	Accepted
Human Resource Quality → Human Resource Productivity	0.844	18.527	0.000	Accepted

The hypothesis testing results indicate that all proposed hypotheses in this study are accepted because each relationship shows a T-statistic value greater than 1.96 and a P-value below 0.05. People analytics has a positive and significant effect on human resource quality with a path coefficient of 0.381, indicating that the implementation of workforce analytics and data-driven HR systems contributes to improving employee competency and workforce effectiveness. Talent management demonstrates a stronger positive influence on human resource quality with a path coefficient of 0.472, suggesting that recruitment, training, career development, and retention strategies play an important role in enhancing workforce capability and professionalism. Furthermore, human resource quality has a very strong positive effect on human resource productivity with a path coefficient of 0.844, indicating that employees with higher competencies, adaptability, and professional capabilities are more capable of improving operational efficiency, work effectiveness, and organizational productivity in manufacturing companies in West Java.

Discussion

The findings of this study demonstrate that people analytics has a positive and significant effect on human resource quality in manufacturing companies in West Java. The path coefficient value of 0.381 and T-statistic value of 5.842 indicate that the implementation of data-driven human resource systems contributes positively to improving employee competencies, professionalism, and workforce adaptability. This result suggests that organizations adopting people analytics are more capable of identifying employee strengths, competency gaps, and workforce development needs through integrated HR information systems. By utilizing workforce data and analytical systems, organizations can conduct more objective employee evaluations and develop more accurate workforce development strategies to support organizational effectiveness [14]–[16].

The implementation of people analytics is particularly important in manufacturing environments where operational precision, production consistency, and workforce efficiency are highly essential. The use of workforce analytics allows organizations to improve employee allocation, monitor workforce performance continuously, and respond more quickly to operational challenges. Employees working in organizations with advanced HR analytical systems tend to receive clearer performance assessments, more accurate competency evaluations, and better development opportunities. These conditions strengthen organizational capability in developing high-quality human resources capable of adapting to technological transformation and industrial digitalization. Therefore, people analytics not only supports administrative HR activities but also becomes an important strategic tool for improving workforce quality and organizational competitiveness.

The results also reveal that talent management has a positive and significant effect on human resource quality, with a path coefficient of 0.472 and a T-statistic of 7.116. This finding indicates that effective talent management practices contribute substantially to improving employee competencies, adaptability, and professional capabilities within manufacturing organizations. Talent management activities such as recruitment, training, employee development, career planning, and succession management provide organizations with systematic approaches for developing qualified employees capable of supporting organizational sustainability and productivity [9], [18]. Employees who receive continuous training opportunities and career support tend to demonstrate stronger technical skills, higher work motivation, and better professional performance.

The relatively higher path coefficient of talent management compared to people analytics indicates that workforce development practices play a more dominant role in improving human resource quality. While people analytics provides organizations with workforce data and analytical insights, talent management translates these strategic insights into practical employee development programs. Manufacturing companies implementing structured talent management systems are also more capable of retaining talented employees and reducing workforce instability caused by turnover and competency gaps. Consequently, organizations integrating people analytics with effective talent management practices are better positioned to develop competitive and adaptive human resources capable of responding to industrial transformation and technological change.

Furthermore, the findings show that human resource quality has a very strong positive effect on human resource productivity, as indicated by the path coefficient value of 0.844 and the T-statistic value of 18.527. This result confirms that employee competencies, professionalism, technical capabilities, and adaptability are major determinants of workforce productivity in manufacturing companies. Employees possessing strong competencies are generally more capable of completing work tasks efficiently, maintaining production quality, and supporting operational stability. High-quality human resources also contribute positively to innovation capability, production effectiveness, and organizational performance improvement. Overall, the results of this study indicate that the integration of people analytics and talent management represents an effective organizational strategy for improving workforce quality and productivity, thereby strengthening the competitiveness of manufacturing companies in the era of industrial digitalization.

CONCLUSION

This study concludes that people analytics and talent management play important roles in improving human resource quality and productivity in manufacturing companies in West Java. The implementation of people analytics enables organizations to utilize workforce data effectively for performance evaluation, competency mapping, and strategic human resource decision-making, while talent management contributes significantly through recruitment, training, career development, and employee retention practices that strengthen workforce competencies and organizational capability. The SEM-PLS analysis results indicate that people analytics positively influences human resource quality, whereas talent management demonstrates a stronger positive effect on workforce quality improvement. Furthermore, human resource quality is proven to have a very strong influence on employee productivity, indicating that competent, adaptable, and professional employees contribute directly to operational efficiency and organizational performance. These findings imply that manufacturing organizations should integrate data-driven HR systems with sustainable talent development strategies by strengthening HR information systems, optimizing workforce analytics, and implementing continuous employee development programs to improve productivity, competitiveness, and long-term organizational sustainability in the era of industrial digitalization.

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