





The effectiveness of career development in mediating the influence of the working environment and training towards the performance of employee

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Abstract

This research aims to identify and analyze the effectiveness of career development in connecting the influence of the work environment and training on employee achievement. The research method adopts a descriptive quantitative approach through a causal methodology. The objects and population of this study are all employees from the steel industry in the Banten Provinces and DKI Jakarta, with a total number of 609 employees. The sample consists of 242 respondents selected using the snowball sampling technique. The data analysis method uses Structural Equation Modeling (SEM), specifically the SEM-LISREL data processing tool, to assess the hypotheses proposed in this study. The research results signify that the environment of work, training, and career development directly impact employee performance. Both the work environment and training also have a direct effect on career development. Furthermore, career development acts as a partial mediator that affects the relationship between the work environment, training, and employee performance.

1. Introduction

The economy's recovery after the global Covid-19 pandemic has been interrupted by so numerous obstacles. World economic growth is predicted to continue weakening, primarily due to geopolitical conflicts, domestic demand pressures in various countries, and widespread financial tightening in 2022. However, the Indonesian economy has proven to be relatively resilient in dealing with this crisis. In 2022, the growth of Indonesia's Gross Domestic Product (GDP) reached 5.3%, higher than the 3.7% growth experienced in 2021. Additionally, investment realization throughout 2022 amounted to IDR 1,207 trillion, which exceeded the target of IDR 1,200 trillion, and representing a growth of 34.0% compared to the achievement in 2021, which was IDR 901 trillion ([Indonesian Iron & Steel Industry Association, 2023](#)).

The government and several institutions forecast that Indonesia's GDP will grow in 2023, reaching a range of 4.5-5.3%. As a result, Indonesia is predicted to be "The Bright Spot in Asia" along with several other ASEAN countries. The main drivers of Indonesia's economic growth are domestic consumption and investment, which are projected to remain quite strong, as well as positive export performance despite slowing global economic growth. Domestic consumption is expected to grow around 5%, while investment and exports are also estimated to increase.

The growth in investment is fuelled by the government's continued focus on infrastructure development, as well as investments in the mining and manufacturing sectors to support downstream industrial policies. The infrastructure budget for 2023 is IDR 392 trillion, a 7.8% increase from the previous year's IDR 364 trillion. The increase in the infrastructure budget will encourage investment in the development sector and related areas such as construction, energy, transportation and communications. Furthermore, economic growth is driven by exports of Crude Palm Oil (CPO), coal, and other mining products, as well as products produced from downstream industries, particularly iron and steel products. All of these factors, including domestic consumption, investment, and exports, directly impact the performance of the national steel industry ([Indonesian Iron & Steel Industry Association, 2023](#)).

The positive growth in Indonesia's Iron and steel trade balance is also noteworthy. After years of experiencing a negative trade balance, it achieved a surplus of USD 3.22 billion in 2020, which further increased to USD 8.50 billion in 2021 and USD 11.97 billion in 2022. This growth is primarily due to the notable increase in steel exports over the past three years. Steel exports rose from USD 11.17 billion in 2020 to USD 23.34 billion in 2021, and reached USD 26.03 billion in January-November 2022. The growth in stainless steel production, as a positive outcome of downstream mineral policies, and carbon steel production have contributed to the increased investments in various global steel producers ([Indonesian Iron & Steel Industry Association, 2023](#)).

Through the growth in national investment increased infrastructure budget, and positive iron and steel trade balance in recent years, the steel industries in Indonesia are compelled to expand their human resources to support the company performance and gain a competitive advantage over other manufacturing sectors ([Widyanty, Daito, Riyanto, & Nusraningrum, 2020](#)). One way to achieve this is by improving the performance of employees. However, the reality shows that many employees are not performing optimally. Pre-research results indicate that 57% of employees in the steel industry in Indonesia are still underperforming. These results also highlighted the main factors contributing to the low performance of employees, namely work environment (63.7%), training (58.2%), and career development (54.4%). Several studies have been conducted on this issue by [Riyanto, Sutrisno, and Ali \(2017\)](#), [Ajizah, Suyoto, and Widhiandono \(2015\)](#) and [Shaputra and Hendriani \(2015\)](#), who assert that employee performance in a company can be influenced by the work environment, career development, and job training provided by the company. It illustrates that these three factors can affect individual performance either partially or simultaneously. However, [Wasiati \(2016\)](#) and [Sofia, Iranita, and Ruwanti \(2016\)](#) found different results, suggesting that training and work environment can reduce someone's performance. In line with this statement, the research by [Putri \(2018\)](#), [Mandey and Lengkong \(2015\)](#), and [Rahinnaya and Perdhana \(2016\)](#) found that training, work environment, as well as career development have no significant influence on the performance of employees in an organization.

Given these phenomena in the Indonesian steel industry and the gaps in previous studies, the authors aim to assist the management of steel industries in Indonesia in order to increase the quality and performance of their employees. This will have an impact on improving organizational performance and capturing business and investment opportunities in the infrastructure sector promoted by the Government of the Republic of Indonesia. This research also introduces career development as a mediating variable, which distinguishes it from other studies. The authors hope that the management of the steel industries in Indonesia can formulate effective policies to enhance employee performance by focusing on work environment, training, and career development.

2. Literature Review

2.1. Work Environment

The work environment encompasses everything that surrounds employees and can have an impact on their well-being and work activities ([Kwenin, 2013](#); [Laras, Jatmiko, Eka Susanti, & Susiati, 2021](#)). It includes various elements such as events, people, and other factors that influence how individuals perform their work

(Taiwo, 2010). The work environment can be categorized into physical and non-physical aspects, both of which influence employees' work experiences. The physical work environment comprises people, facilities, and infrastructure, while the non-physical aspect includes the situations and conditions that exist in the workplace. According to Nitisemito (2015), the work environment encompasses everything surrounding employees, both physical and non-physical that affects their ability to carry out assigned tasks and either a conducive or challenging situation for them (Casson, 1983).

Schultz and Schultz (2015) argue that the work environment is synonymous with the quality of the workplace, encompassing the behaviours and interactions employees' encounter. It involves psychological changes resulting from experience at work or specific conditions that require attention from the organization, as monotonous work can lead to boredom and work fatigue. A conducive work environment enables employees to effectively perform their daily tasks in the organization (Astuti, Maryati, & Harsono, 2020; Fan, 2023). The work environment also affects employees' performance, safety and work quality (Heizer & Render, 2004). A good work environment is characterized by employees being able to complete their tasks comfortably and in a conducive setting, thereby enhancing the performance of the organization (Brunia, De Been, & van der Voordt, 2016; Kwenin, 2013).

2.2. Training

Training can be defined as a process that uplifts employees' skills and knowledge to excel in their current roles (Aguinis & Kraiger, 2009; Figari, 2011). It serves as a means to upgrade employees' understanding and abilities, provided by the company based on their positions (Evenson, 2018; Mardiyah & Purba, 2019; Suryadi & Aima, 2019). Aguinis and Kraiger (2009) identify training as a structured method that improves employees' understanding and capacity to achieve targets. Hariandja (2009) explains that training is an essential stage taken by organizations to increase the employee's comprehension and skills. The training aims to develop diverse skills and techniques necessary to complete daily work tasks (Handoko, 2015). It is an effective way for companies to increase knowledge and skills based on employee levels (Kusumaningrum, Haryono, & Handari, 2020).

The training process not only benefits the organization but also has a positive impact on employees (Tahir, Yousafzai, Jan, & Hashim, 2014). Furthermore, training and development contribute to increased profitability, a positive attitude towards profit orientation, job knowledge, skills improvement, work expansion, and employee goal identification within the organization (Tahir et al., 2014). Moreover, training and development offer individual benefits by helping employees solve problems, encouraging self-development and self-confidence, enabling effective coping with stress, tension, frustration, and conflict, increasing job satisfaction and recognition, and facilitating the achievement of individual goals and skill enhancement (Tahir et al., 2014).

2.3. Career Development

The development of a career can be seen as something that employees desire from their work, as they strive for greater benefits and advancements (Ismail, Madrah, Aminudin, & Ismail, 2013; Kwenin, 2013). According to Rivai and Sagala (2014), career development is a process of acquiring the necessary skills and abilities to achieve career goals. The alignment between individual career aspirations and the organization's career management path contributes to the employee's career development (Gomes, 2013). A well-defined career development path within a company allows employees to choose the desired level or position that aligns with their career objectives (Mardiyah & Purba, 2019).

Career development involves processes and activities that prepare employees for future positions within an organization or company (Schreurs, Duff, Le Blanc, & Stone, 2022). By increasing career development and opportunities and implementing career development programs, organizations indirectly improve employee performance and productivity (Elmi & Ali, 2017). A well-established career development framework enables HR managers to create career plans that meet the needs of employees, fostering trust, assisting in stress management, and promoting self-development within the company (Keller, Samuel, Bergman, & Semmer, 2014; Yoon, Kim, & Eom, 2019).

2.4. Employee Performance

Performance refers to the quality and quantity of work completed by employees in fulfilling their assigned tasks (Mangkunegara, 2017). Improved employee performance can be measured by the organization's increased achievement in attaining agreed-upon goals (Sedarmayanti, 2017). Delaying the restoration of employee performance can lead to high turnover among the remaining employees (Brazen, 2004). Given the potential differences in perspectives between leaders and employees regarding performance, efforts are required to objectively measure performance (Varma, Budhwar, & DeNisi, 2008).

To achieve the performance goals, companies need to ensure the effectiveness of functional areas and internal systems (Aquila & Rice, 2017; Riyanto & Prasetyo, 2021). Companies expect commitment from their employees, which should align with organizational values (Celep & Yilmazturk, 2012; Nygaard & Biong, 2010). Companies that employ high-performance business strategies recognize the importance of managers who can identify employ talents, opportunities, and career paths (Riyanto, Endri, & Herlisha, 2021). Therefore,

implementing the right HR strategies, such as training, compensation, performance appraisal, career development, and cooperation, is crucial for improving employee performance (Eigenhuis & Dijk, 2007; Thevanes & Mangaleswaran, 2018). Performance appraisal should be conducted to evaluate the performance of employees, involving managers at all levels (Ganyam & Ivungu, 2019).

2.5. Research Framework

Building upon the research background, previous research gaps, and theories put forward by the experts mentioned above, the authors aim to explore further the role of career development as a hub connecting the dependent and independent variables in this study. The research hypotheses are as follows:

H₁: The performance of employees can be directly increased by the work environment.

H₂: Career development can be directly enhanced through the effect of the work environment.

H₃: Employee performance can be directly improved by career development.

H₄: Training can determine career development.

H₅: Training has an influence on the performance of employees.

H_{6a}: The performance of the employees can be indirectly increased by the work environment with the help of career development.

H_{6b}: Training has an indirect effect on the performance of employees through the help of career development.

The research framework is shown in Figure 1.

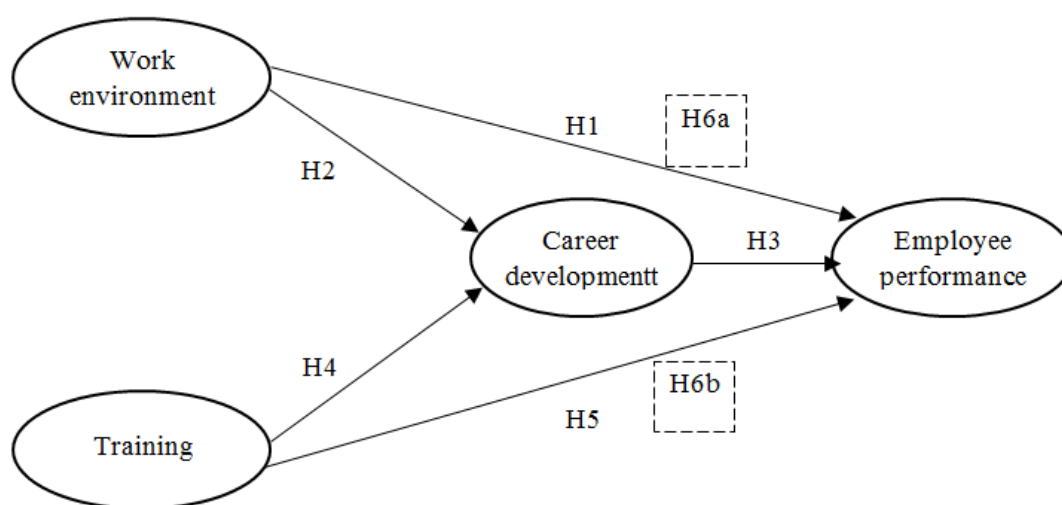


Figure 1. Illustrates of a conceptual framework.

3. Research Method

A descriptive quantitative research method is chosen for this study, utilizing a causal or causality approach in order to determine the correlation between the variables under investigation (Cresswell, 2016). The main purpose of this research is to determine the effectiveness of career development as a connection between the independent variables (work environment and training) and the dependent variable (employee performance). The study focuses on employees in the steel industry, specifically middle-level managers, lower-level managers, and operational staff working in steel industry companies located in Banten Province and the Province of DKI Jakarta, Indonesia. The total population consists of 609 employees, from which a sample of 242 respondents is determined using the Slovin formula with a 5% error rate (Hair, Black, Babin, & Anderson, 2018). The sampling technique employed is non-probability sampling, specifically the snowball method (Sugiyono, 2019). Data collection is conducted through observation, interviews, as well as questionnaires to gather the required research data. The collected data is then analysed using SEM-LISREL (Structural Equation Modeling-Linear Structural Relationship) to evaluate the proposed hypotheses in this study.

4. Research Results and Discussions

4.1. Results

Referring to the validity test presented in Figure 2, the results indicate that all indicators, totalling 39 items, have a standardized loading factor above 0.5. Furthermore, the reliability examination reveals that the construct reliability (CR) exceeds 0.7, and the variance extracted (VE) value is above 0.5. Based on these findings, it can be concluded that the variables and indicators in this study are valid and reliable (Hair et al., 2018).

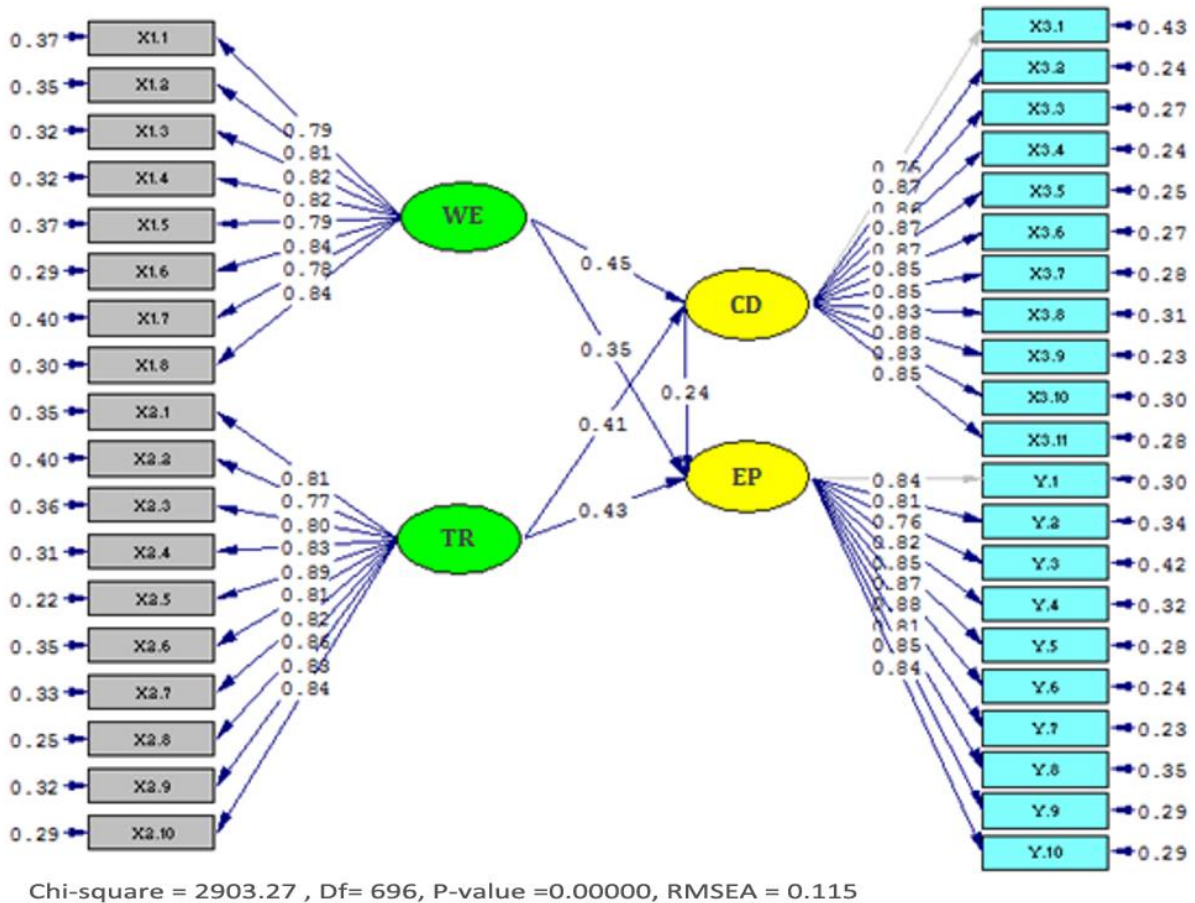


Figure 2. Illustrates of path diagram model.

Note: WE: Work environment, TR: Training, CD: Career development, EP: Employee performance.

The results of the Goodness of Fit (GoF) evaluation indicated that the GOF value is 0.80, which is close to reaching 0.90 (Marginal Fit). Additionally, the RMSEA value is 0.063, which is less than 0.08 (indicating model fit). Therefore, it can be concluded that the entire dataset is compatible (Hair et al., 2018).

Regarding the incremental fit measure requirements, the condition where the NNFI/TLI values are $0.99 \geq 0.90$ (model fit), the CFI values are $0.99 \geq 0.90$ (model fit), the RFI values are 0.90 (model fit), the NFI values are $0.98 \geq 0.90$ (model fit) and the FI values are $0.99 \geq 0.90$ (model fit) can be said as a fit to the measure requirements (Hair et al., 2018). Lastly, for the parsimonious fit measure, the normed chi-square is $1.957 < 2.0$ (indicating model fit) (Hair et al., 2018). Based on the results of the GoF test listed in Table 1, it has been proven that all measurements fit the standard Models (null models).

Table 1. Explains the goodness of fit test results.

GoF size	Measurement level		Measurement results	
	Good fit	Marginal fit		
χ^2/df (Normed Chi-square)	< 2.0	-	1.957	Fit
RMSEA (Root mean square error)	< 0.08	-	0.063	Fit
RMR (Root mean square residual)	< 0.05	-	0.033	Fit
GFI (Goodness of fit index)	≥ 0.90	$0.70 < 0.90$	0.80	Marginal fit
NFI (Normal fit index)	≥ 0.90	$0.80 < 0.90$	0.98	Fit
NNFI (Non-normed fit index)	≥ 0.90	$0.80 < 0.90$	0.99	Fit
CFI (Comparative fit index)	≥ 0.90	$0.80 < 0.90$	0.99	Fit
IFI (Incremental fit index)	≥ 0.90	$0.80 < 0.90$	0.99	Fit
RFI (Relative fit index)	≥ 0.90	$0.80 < 0.90$	0.97	Fit

According to the previously conducted structural model fit test results, all seven research hypotheses have been proven to have a significant connection with a confidence level of 95% (indicated by a t-value > 1.96). As a whole, the research results can be classified as shown in Table 2, as follows:

Table 2. Describes significance test results.

Path	Estimate	T-value	Results
Work environment -> Employee performance	0.34	6.46	H ₁ Supported
Work environment -> Career development	0.44	6.16	H ₂ Supported
Career development -> Employee performance	0.27	5.13	H ₃ Supported
Training -> Career development	0.38	5.57	H ₄ Supported
Training -> Employee performance	0.42	7.65	H ₅ Supported
Work environment -> Career development -> Employee performance	0.12	4.18	H _{6a} Supported
Training -> Career development -> Employee performance	0.11	3.97	H _{6b} Supported

Based on the results of the SEM analysis and the causal connections observed between each variable, the formulated questions can be written as follows:

$$CD = 0.44*WE + 0.38*TR, \text{Errorvar.} = 0.33, R^2 = 0.65 \quad (1)$$

$$EP = 0.27*CD + 0.34*WE + 0.42*TR, \text{Errorvar.} = 0.13, R^2 = 0.87 \quad (2)$$

Equations 1 and 2 describe the causal relationship between the independent and dependent latent variables. Based on structural Equation 1, it can be concluded that career development is well described by the independent variables, namely work environment and training, with a contribution of 65%. The remaining 35% can be attributed to other variables not included in this research. Similarly, based on structural Equation 2, work environment and training effectively define employee performance, accounting for 87%. The remaining 13% can be explained by other variables outside the scope of this research.

4.2. Discussion

Taking into account the research results mentioned above, it is evident that employee performance in Indonesia's steel industry can be improved through a conducive work environment. This finding is supported by previous research conducted by Riyanto et al. (2017), Ajizah et al. (2015), Laras et al. (2021) and Dien and Duyen (2021) who also emphasized the positive impact of a comfortable and supportive work environment on employee performance. Therefore, it is essential for the management of the steel industry in Indonesia to prioritize the condition of facilities and infrastructure that facilitate effective employee performance. By providing the necessary resources and creating a favorable work environment, employees' effectiveness and performance can be enhanced.

Furthermore, the research results highlight the significant role of the work environment in promoting career development in the steel industry in Indonesia. The findings align with the studies conducted by Ismail et al. (2013) and Kwenin (2013), which suggest that a conducive work environment facilitates career growth and development. This research emphasises the importance of physical facilities that support career planning, as they enable employees to demonstrate high dedication and accelerate their career paths. A supportive work environment positively influences employee motivation, happiness, and optimal performance. Moreover, it contributes to the company's profits and overall career development of employees. Career development and management within an organization are closely linked to creating a comfortable work environment, as stated by Koekemoer (2014). Therefore, a conducive work environment fosters employee satisfaction, leading to enhanced career growth.

Based on the accomplished research results, it is evident that employee performance in Indonesia's steel industry can be improved through sustainable career development. The results of this research are in line with the research by Ajizah et al. (2015), which indicates that career development, coupled with definite career opportunities, motivates employees to strive for higher positions, ultimately enhancing their performance. Consequently, leaders should establish guidelines for the career development of each employee. Effective fairness guidelines uplift the motivation of employees and increase overall effectiveness at work. Additionally, leaders should prioritise the career advancement and well-being of their employees.

By demonstrating concern for their careers, employees feel valued, leading to optimal performance. These findings emphasize the need for the steel industry in Indonesia to prioritize career management for employees to sustain workplace efficiency. Employees tend to exert greater effort when they have career certainty, as it aligns with their goals and mission. Career development that meets employee expectations fosters motivation and encourages them to strive for higher accomplishments, ultimately enhancing employee performance.

Based on the research results, it is evident that career development in Indonesia's steel industry can be increased through job training. These results are supported by the study conducted by Suadnyana and Supartha (2018), which emphasizes the usefulness of job training in strengthening career development within the company. The outcomes highlight the influential role of training in determining employee career growth, as it enables employees to enhance their skills and abilities. Therefore, it is crucial for companies to prioritize training as it provides employees with a deeper understanding of their duties and tasks, both individually and as part of a team. High-quality training programs elevate employees' skills and contribute to strategic competitive advantages, enabling the company to advance its strategic plans. Moreover, when training is provided to employees, their value to the company increases. It is important for employees to demonstrate

good behavior, as it positively impacts their career development. Building positive relationships and fostering cooperation among employees creates a strong bond and allows them to plan their careers without experiencing social jealousy. In such a harmonious environment, employees can pave a clear path for their career development.

Based on the aforementioned results of the research, it is proven that employee performance in Indonesia's steel industry can be significantly enhanced through the implementation of sustainable job training. This finding aligns with the findings of Kusumaningrum et al. (2020) and Suryadi and Aima (2019), who emphasize the importance of training programs tailored to meet the specific needs of employees. Such training programs are instrumental in accelerating employees' skills and enabling them to fulfill their job responsibilities more effectively, thereby improving their overall performance within the company. Consequently, it is crucial for employees to maintain a positive work ethic, as this positively influences their work effectiveness and enhances their value within the organization, ultimately leading to an improvement in their performance.

The results of the aforementioned research indicate that employee performance in Indonesia's steel industry can be indirectly improved through the combined influence of the work environment, training, and career development as a mediating variable. This research findings demonstrate that a systematic training approach has a significant impact on acquiring knowledge, developing skills, and shaping attitudes that are useful for improving individual, team and organizational performance. This, in turn, contributes to improving the performance of employees (Aguinis & Kraiger, 2009; Ataunur & Ariyanto, 2016). Therefore, it is essential for the training program to be well-planned and executed consistently, adhering to high-quality standards to yield favourable outcomes that positively affect the workers' performance. Additionally, a harmonious work environment plays a crucial role in motivating employees to carry out their tasks effectively (Nitisemito, 2015), fostering a pleasant atmosphere that further enhances employee performance. These correlations highlight the positive impact of both training and a supportive work environment on improving employee performance (Ismail et al., 2013; Kwenin, 2013).

5. Conclusion

After thoroughly processing and analysing the research data, several conclusions can be drawn from this research: Firstly, it is evident that the work environment, training, and career growth development planning have a direct significant impact on employee performance. Both the work environment and training contribute directly to enhancing career development, resulting in improved employee performance. Furthermore, career development acts as a partial mediator in the relationship between the work environment, training, and employee performance in the steel industry in Indonesia.

Based on the findings obtained from this research, it is hoped that the leaders in the steel industry in Indonesia can stay updated with the latest technology in order to improve work effectiveness and enhance performance. It is advisable for leaders to create favorable conditions that allow their employees to thrive and maintain a positive and comfortable work environment. This conducive work environment will stimulate employees and create an atmosphere that promotes worker satisfaction, ultimately leading to increased career development.

Additionally, leaders in the steel industry in Indonesia are encouraged to provide situational and customized training methods for their employees. Such training programs can effectively enhance the capabilities of employees and contribute to their career development. It is important for leaders to lead by example, demonstrate a positive attitude and promote high work output and quality. This will inspire employees and increase their work effectiveness and performance.

Furthermore, it is suggested that superiors establish a career management system that aligns with the capacities of individual employees. This will provide a clear career path for employees and directly contribute to improved performance. Finally, it is recommended that future research expands and explores other factors that impact employee performance, encompassing a wider range of manufacturing industries. This will contribute to a more comprehensive understanding and knowledge base in the field.

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