The Effect of Fingerprint Attendance Effectiveness on Compensation with Discipline as a Mediating Variable at PT. XYZ

Varadilla Arkadewi

Department of Management, Faculty of Economics and Business, Universitas Muhammadiyah Gresik; Gresik, Indonesia
E-Mail: varadilla227@gmail.com

Nur Cahyadi

Department of Management, Faculty of Economics and Business, Universitas Muhammadiyah Gresik; Gresik, Indonesia
E-Mail: nurcahyadi@umg.ac.id

ABSTRACT

This study aims to evaluate the effectiveness of the fingerprint attendance system on compensation, with discipline as a mediating variable. The study was conducted at PT. XYZ, involving a sample of 110 employees from a population of 689 people. Data collection was carried out through a questionnaire with a Likert scale, then analyzed using the PLS-SEM method with SmartPLS 4 software. The analysis process includes validity, reliability, hypothesis testing, and model fit tests. The results of the study indicate that the fingerprint attendance system significantly improves employee discipline, which then has a positive impact on compensation. In addition, fingerprint attendance also has a direct effect on compensation. Discipline has been shown to be an important mediator in building a disciplined work culture, increasing transparency in working time management, and ensuring fair and productive compensation. This study highlights the important role of technology in human resource management, especially in creating an efficient, transparent, and productivity-supporting work system. These findings provide important insights for companies in designing effective technology-based discipline and compensation policies.

Keywords: Compensation, Discipline, Effectiveness, Fingerprint Attendance

ABSTRAK

Penelitian ini bertujuan mengevaluasi efektivitas sistem absensi fingerprint terhadap kompensasi, dengan kedisiplinan sebagai variabel mediasi. Studi dilakukan di PT. XYZ, melibatkan sampel 110 karyawan dari populasi sebanyak 689 orang. Pengumpulan data dilakukan melalui kuesioner dengan skala Likert, kemudian dianalisis menggunakan metode PLS-SEM dengan perangkat lunak SmartPLS 4. Proses analisis meliputi uji validitas, reliabilitas, pengujian hipotesis, dan kecocokan model. Hasil penelitian menunjukkan bahwa sistem absensi fingerprint secara signifikan meningkatkan kedisiplinan karyawan, yang kemudian berdampak positif pada kompensasi. Selain itu, absensi fingerprint juga memiliki pengaruh langsung terhadap kompensasi. Kedisiplinan terbukti sebagai mediator penting dalam membangun budaya kerja yang disiplin, meningkatkan transparansi dalam pengelolaan waktu kerja, dan memastikan pemberian kompensasi yang adil dan produktif. Penelitian ini menyoroti peran penting teknologi dalam pengelolaan sumber daya manusia, khususnya dalam menciptakan sistem kerja yang efisien, transparan, dan mendukung produktivitas. Temuan ini memberikan wawasan penting bagi perusahaan dalam merancang kebijakan kedisiplinan dan kompensasi berbasis teknologi yang efektif.

Kata kunci: Kompensasi, Kedisiplinan, Efektifitas, Absensi Fingerprint

INTRODUCTION

In the era of globalization, the rapid advancement of science and information technology has made access to information faster, easier, and more accurate for many people. This development has also given rise to communication and information platforms that transcend the boundaries of space and time. Technology plays an important role in shaping global economic management, driven by the introduction of tools and systems designed to increase productivity (Suryanto & Tyas, 2024). In order to remain competitive, companies and organizations must improve and optimize existing resources to achieve their goals. Human resource development focuses on realizing these goals by addressing key areas such as planning, recruitment, training, career development, placement, performance evaluation, work relations, and employee discipline. One of the most effective strategies for improving the quality of human resources is to enforce clear regulations and foster a strong culture of discipline among employees.

Disciplinary action refers to a condition that arises as a result of various behaviors that reflect compliance and obedience to previously established rules (Dahlan, 2020). Employees or workers are important human resources for any company or organization, because they serve as the main assets that drive business success. Without employees, no organization or company can achieve its goals. The measure of employee discipline can be seen from the low level of employee awareness of tasks and responsibilities in completing work (Cahyadi et al., 2023). These human resources play an important role in completing tasks and act as a factor in ensuring the success of the company. In addition, employees are expected to be able to improve the efficiency of systems such as fingerprint attendance, managing compensation, and maintaining work discipline.

However, in practice, there are still many employees in companies who do not do fingerprint attendance. This action causes a lack of employee discipline and has an impact on employee compensation (Ferdye et al., 2024). PT. XYZ is a National Private Company that focuses on outsourcing services or manpower supplies, with specifications on Manpower Service Providers (*Penyedia Jasa Tenaga Kerja*/PJTK) and Work Contracting (*Pemborongan Pekerjaan*/PP) as well as fabrication & civil maintenance work, PT. XYZ has established cooperation with one of the private multinational companies in providing outsourcing services for various fields of work, both technical and non-technical or other service businesses. At PT. XYZ, a significant problem was found related to the lack of effectiveness of fingerprint attendance, with almost 50% of employees not using the fingerprint system to report attendance.

Based on the results of observations and interviews with the administration, two main reasons were found for this: technical problems with the fingerprint machine and employee problems. In terms of technical matters, fingerprint machines often misread fingerprints. This can happen due to various things, such as unclean sensors or hardware damage. In this case, PT. XYZ employees need a higher level of work discipline. Work discipline plays a very important role in supporting the success and competitiveness of PT. XYZ so that the company can grow and remain competitive. Therefore, discipline is one of the important things that employees must have to contribute effectively to the company or organization (Mahmud et al. 2023; Fauziah & Baskara, 2024).

Discipline starts with internal motivation to follow existing regulations. These regulations include various provisions that apply in each company. One form that shows employee discipline is by taking attendance, to ensure their presence at work. The relationship between work discipline and the use of fingerprint attendance as part of time discipline is explained in the research of Afriani & Maliah (2021). As stated by Zulfikar & Kurniawati (2020), fingerprint is an attendance device that utilizes unique fingerprint scanning technology, so it cannot be damaged or forged. The use of this fingerprint attendance system is considered the right and accurate step to support optimal company performance, because employee work discipline is an important part that must be fulfilled so that the company can achieve its stated goals.

Based on observations of the effectiveness of fingerprint attendance at PT. XYZ is very effective for employees, the use of fingerprint attendance is considered practical and difficult to manipulate. However, at PT. XYZ the implementation of the fingerprint attendance system has not been optimal in improving employee discipline, because there are still many employees who underestimate fingerprint attendance. To overcome this problem, the company needs to conduct a comprehensive evaluation of the existing attendance system. Including ensuring that the fingerprint machine is functioning properly and carrying out routine maintenance to prevent damage. In addition, providing training to employees on how to use the attendance system properly and raising awareness of the importance of attendance can help improve the situation (Sugito & Ghoniyah, 2017). Another alternative is to consider using a more flexible and modern attendance system, such as a web-based or mobile application that does not rely on fingerprints and can reduce attendance-related problems.

This problem has an impact on employee compensation where fingerprint attendance is designed to improve accuracy and reliability in recording attendance, allowing companies to calculate salaries based on valid attendance data. With an efficient attendance system, companies can reduce errors in calculating working hours, which are often a source of problems in salary payments. When employees do their attendance properly, they will receive compensation that is in accordance with their working hours. Compensation plays an important role for employees as individuals because the amount of compensation received is a measure of their performance (Ilmi & Juliana, 2023). In addition, compensation is also an indicator for companies in maintaining their human resources, so that employees can show loyalty and high discipline commitment to the company. Based on the background that has been explained, this study aims to analyze the effect of the effectiveness of fingerprint attendance on compensation at PT. XYZ, by considering employee discipline as a mediating variable. This study is expected to be able to provide broader and deeper insights into the importance of fingerprint attendance and discipline, in order to increase the level of employee compensation satisfaction.

LITERATURE REVIEW

Effectiveness comes from the word effective, which means successfully achieving goals or results according to a predetermined plan. A job is considered effective if it achieves the goals that have been set, because effectiveness focuses on achieving the desired results. According to Sari (2021), Effectiveness can be assessed from various perspectives, evaluated using various methods, and is closely related to efficiency. Meanwhile, according to Oktafiana (2020) and Dewa (2023), Effectiveness is a measure of the success or failure of an organization's goals in achieving its goals. The success of an organization in achieving its goals is the main determinant of operational effectiveness. How much the final results of the program contribute to the goals that have been set is the benchmark for that success. The more efficient an organization is in achieving its goals, the greater the role of output in the operational process. In other words, an activity is considered effective if it is in accordance with established procedures and succeeds in achieving the desired goals. Based on research cited by Annas (2017), several indicators that show organizational effectiveness are Target achievement, Adaptability, Employee satisfaction and Sense of responsibility

According to Kasmir (2016), attendance serves as proof of a person's presence from the start of working hours to the end. In addition, according to Haqi & Setiawan (2019), membership cards or attendance records are records of the attendance of each member in an organization. Attendance refers to the process of recording attendance which is part of the company's activity report, this process includes data such as arrival and return times and reasons or explanations for attendance. This data is well organized so that it is easy to access and use when needed by related parties.

Fingerprint attendance is one of the technological solutions that aims to encourage increased work discipline. According to Amir (2015), filling in attendance sheets manually (only in the form of an attendance book) is a challenge for organizations in

tracking employee punctuality, including arrival and departure times. By implementing a fingerprint system, it is expected to assess employee productivity and performance, so that it can contribute to the progress and growth of the company. Based on Davis (1991), a fingerprint machine is a device that provides important information to decision makers, fingerprint machine indicators, namely computer hardware such as central computers, input and output devices, and data storage media; programming system to manage order database; easy and practical usage method, such as user guide; human resources consisting of security officers, programmers, data managers, and IT heads; ability to produce information in a timely manner.

Discipline is a person's mental attitude that is reflected through actions or behavior, both individually, in groups, and in society that shows their obedience to the rules, ethics, norms, and regulations of society that apply (Sinungan, 2018). A person is considered disciplined when they voluntarily comply with existing regulations and fulfill their responsibilities, either by choice or obligation. Discipline is seen in employees who consistently arrive on time, do not go home early, do their jobs, and follow all applicable rules and standards. Strong discipline shows a person's level of responsibility for the work given to him. In addition, discipline also fosters motivation and work enthusiasm, thus contributing to the achievement of company goals while supporting employee and community goals. Therefore, leaders continuously encourage their teams to maintain high standards of discipline. Indicators of discipline according to Hasibuan (2008), include goals and abilities, Leadership Example, Rewards, Salary and Welfare, Justice, Punishment Sanctions, Firmness and Human Relations.

According to Hasibuan (2008), compensation is any form of payment given by a company to employees in return for their contribution. This form of compensation is very diverse, ranging from cash to various other types of benefits. Direct compensation includes providing direct rewards to employees such as salaries, wages, or incentives that are directly related to the tasks they perform. Meanwhile, indirect compensation refers to additional payments given based on company policy, such as holiday allowances. According to Cahyadi et al. (2023), the principle of compensation is fair and appropriate. For employees as individuals, compensation plays an important role because it reflects their level of contribution to society, family, or themselves. Any form of appreciation given by the organization for employee performance and contribution can be categorized as compensation or a form of appreciation. For the benefit of the company and employees, compensation or remuneration is usually carried out. The company wants to get compensation for better work performance, while employees want to get compensation to meet their needs and desires. According to Pradila & Fadli (2023), compensation indicators are Wages and Salaries, Incentives, Allowances and Facilities.

Despite extensive studies on attendance systems and their role in promoting discipline (Amir, 2015; Zulfikar & Kurniawati, 2020), gaps remain in understanding the mediating role of discipline in the relationship between attendance systems and compensation. Previous research primarily emphasizes the technological efficiency of fingerprint systems (Nguyen-Tat et al., 2024) without exploring their behavioral impact on discipline and subsequent compensation. Additionally, studies often overlook the contextual factors, such as organizational culture and employee perceptions, that influence the effectiveness of these systems. This research seeks to address these gaps by examining the interplay between fingerprint attendance effectiveness, employee discipline, and compensation within a specific organizational setting. The relevance of this study lies in its potential to enhance the understanding of how technological advancements in attendance management can drive employee discipline and equitable compensation practices. By investigating the mediating role of discipline, this research offers insights into creating a disciplined and transparent organizational culture. Moreover, it provides practical recommendations for improving attendance systems and aligning them with broader HRM objectives. The findings are particularly significant for organizations aiming to leverage technology to foster accountability and fairness in compensation, ultimately contributing to higher employee satisfaction and productivity.

Fingerprint attendance systems ensure accurate and transparent recording of working hours, which is a prerequisite for fair compensation (Cahyadi et al., 2023). Enhanced attendance accuracy fosters discipline by creating accountability and reducing opportunities for time fraud (Afriani & Maliah, 2021). Discipline, in turn, influences compensation by ensuring that employees meet organizational expectations, thereby justifying equitable rewards (Hasibuan, 2008). The mediating role of discipline suggests that while attendance systems directly impact compensation, their full potential is realized through the behavioral changes they induce in employees. This study hypothesizes that discipline strengthens the relationship between attendance system effectiveness and compensation outcomes, providing a holistic view of the dynamics involved.

H1: Fingerprint Attendance Effectiveness has a significant effect on Discipline
H2: Discipline has a significant effect on Compensation
H3: Fingerprint Attendance Effectiveness has a significant effect on Compensation
H4: Fingerprint Attendance Effectiveness has a significant effect on Compensation through Discipline as a mediating variable.

METHODS

This research was conducted at PT. XYZ Gresik using a quantitative approach. Numerical data were collected through questionnaires distributed to 110 employees from two departments, Flourmill Plant and TMC. These departments were selected because they have a high level of ineffectiveness in the use of fingerprint attendance. The study population included 689 employees of PT. XYZ. Measurements used a Likert scale, with the options: Strongly Agree (5), Agree (4), Quite Agree (3), Disagree (2), and Strongly Disagree (1) (Sugiyono, 2017). The study aims to analyze the effectiveness of fingerprint attendance. Data were analyzed descriptively to provide an overview of the characteristics of respondents without broad generalizations. More in-depth analysis was conducted using SmartPLS software. The Partial Least Square (PLS) method was chosen because of its ability to handle complex data, models with many variables, and non-normative data (Haryono, 2016). Model evaluation in SmartPLS includes an outer model that includes convergent validity, discriminant validity, and reliability. Convergent validity is considered achieved if the correlation of the indicator to the construct is >0.70, while discriminant validity is met if the indicator is more strongly related to its construct than other constructs. Reliability is measured using the Composite Reliability value (>0.70) and AVE (>0.50). Hypothesis testing is carried out through testing the structural model (inner model) by looking at the R-square value, t-statistic, and p-value. This test identifies the relationship between latent variables and evaluates direct, indirect, mediation, and moderation effects. The model is assessed using Goodness of Fit to measure overall feasibility. Evaluation is carried out using the R-square value for the contribution of exogenous variables to endogenous variables, and F-square to measure the effects between variables.

RESULTS

Validity and reliability tests were conducted to determine the feasibility of the measuring instrument used in the study with the variables of Fingerprint Attendance Effectiveness, Discipline and Compendium.

Table 1. Outer Loading and Cross Loadings Test

Variable	Statement	Loading Factor	Information
Effectiveness of Fingerprint Attendance	X.1	0.904	Valid
	X.2.1	0.774	Valid
	X.2.2	0.866	Valid
	X.3.1	0.814	Valid
	X.3.2	0.738	Valid
	X.4.1	0.810	Valid
	X.4.2	0.812	Valid
	X.5	0.752	Valid
	X.6	0.728	Valid
	X.7.1	0.751	Valid
	X.7.2	0.796	Valid
	X.8.1	0.747	Valid
	X.8.2	0.764	Valid
Discipline	Z.1.1	0.733	Valid
	Z.1.2	0.749	Valid
	Z.2	0.729	Valid
	Z.3	0.854	Valid
	Z.4.1	0.891	Valid
	Z.4.2	0.821	Valid
	Z.5.1	0.886	Valid
	Z.6.1	0.829	Valid
	Z.7	0.751	Valid
	Z.8	0.825	Valid
Compensation	Y.1.1	0.730	Valid
	Y.1.2	0.739	Valid
	Y.2.1	0.965	Valid
	Y.2.2	0.932	Valid
	Y.2.3	0.932	Valid
	Y.3.1	0.962	Valid
	Y.3.2	0.912	Valid
	Y.3.3	0.896	Valid
	Y.4.1	0.861	Valid
	Y.4.2	0.895	Valid

Based on the Table 1, all indicators with loading factor values above 0.70 indicate that each indicator makes a strong contribution to the constructs it represents, namely Fingerprint Attendance Effectiveness, Discipline, and Compensation. In the Fingerprint Attendance Effectiveness construct, the indicator with the highest value is Target Achievement (0.904), while in Discipline, the indicator with the most significant contribution is Justice (0.891). For the Compensation construct, the indicator with the highest value is Incentive1 (0.965). These results indicate that each indicator is valid in measuring the related construct, so this measurement model can be said to be reliable and relevant for further analysis. Each indicator has a greater loading factor value on the variables it measures compared to other variables. This shows that these indicators are valid in representing their respective variables, namely Fingerprint Attendance Effectiveness (X), Discipline (Z), and Compensation (Y). Overall, these results support the discriminant validity between the variables in this study.

Table 2. Construct Validity and Reliability Test Results

Construct	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Effectiveness of Fingerprint Time Attendance (X)	0.948	0.954	0.954	0.617
Discipline (Y)	0.927	0.942	0.941	0.619
Compensation (Z)	0.950	0.967	0.960	0.714

Based on the Table 2, all tested constructs, namely Fingerprint Attendance Effectiveness, Discipline, and Compensation, showed Cronbach's Alpha, rho_A, and Composite Reliability values above 0.70, indicating a very good level of internal reliability. In addition, the Average Variance Extracted (AVE) value for the three constructs also exceeded the minimum limit of 0.50, indicating that each construct was able to explain more than 50% of the variance of its indicators. With the highest AVE value in the Compensation construct (0.714), followed by Fingerprint Attendance

Effectiveness (0.617) and Discipline (0.619), it can be concluded that this model is valid and reliable for further analysis.

Table 3. Fornell Larcker Criterion and f-Square Results

	X	Y	Z
Effectiveness of Fingerprint Time Attendance (X)	0.986	0.32	0.28
Discipline (Y)	0.952	0.987	0.22
Compensation (Z)	0.925	0.903	0.945

Based on the Table 3, each construct in the model has a clear identity and is different from other constructs. This can be seen from the Average Variance Extracted (AVE) value which is higher compared to the correlation between constructs. Effectiveness of Fingerprint Attendance (X), Discipline (Z), and Compensation (Y), have good discriminant validity. Thus, each variable in this model is able to differentiate itself from other variables significantly, supporting the quality of measurement construction in the study. The Effectiveness of Fingerprint Attendance (X) provides a moderate contribution to Discipline (Z) with an f-Square value of 0.32, and a moderate contribution to Compensation (Y) with an f-Square value of 0.28. Meanwhile, Discipline (Z) shows a moderate influence on Compensation (Y), with an f-Square value of 0.22. These results indicate that the Effectiveness of Fingerprint Attendance has a more significant role in explaining the variability of Discipline compared to its contribution to Compensation.

Table 4. Results of R-Square

Construct	R Square	R Square Adjusted
Discipline (Y)	0.919	0.918
Compensation (Z)	0.819	0.817

Based on the Table 4, the R Square value for Discipline is 0.919 and for Compensation is 0.819. This shows that the Effectiveness of Fingerprint Attendance is able to explain 91.9% of the variability in Discipline, while Discipline is able to explain 81.9% of the variability in Compensation. The Adjusted R Square value is only slightly lower, namely 0.918 for Discipline and 0.817 for Compensation, indicating that the model used is quite stable and accurate after taking into account the number of variables in the analysis.

Table 5. Results of Direct and Indirect Influence Tests

Constructs	Original Sample	Sample Mean	STDEV	T Statistics	P Values
Effectiveness of Fingerprint Time Attendance (X) -> Discipline (Z)	0.952	0.954	0.006	157.464	0.000
Fingerprint Time Attendance Effectiveness (X) -> Compensation (Y)	0.912	0.920	0.119	7.664	0.000
Discipline (Z) -> Compensation (Y)	0.834	0.827	0.123	6.278	0.002
Effectiveness of Fingerprint Time Attendance (X) -> Discipline (Z) -> Compensation (Y)	0.873	0.886	0.177	6.739	0.001

Based on the Table 5, all direct and indirect influences tested showed significant T Statistics values (greater than 1.96) with P Values below 0.05. Fingerprint Attendance Effectiveness (X) has a very strong direct influence on Discipline (Z) with a coefficient of 0.952. In addition, Fingerprint Attendance Effectiveness (X) also has a significant influence on Compensation (Y) directly with a coefficient of 0.912, and indirectly through the mediation of Discipline (Z) with a coefficient of 0.873. The influence of Discipline (Z) on Compensation (Y) is also significant with a coefficient of 0.834. These results indicate that Discipline (Z) acts as a partial mediator in the relationship between Fingerprint Attendance Effectiveness (X) and Compensation (Y), strengthening the overall influence of variable X on Y.
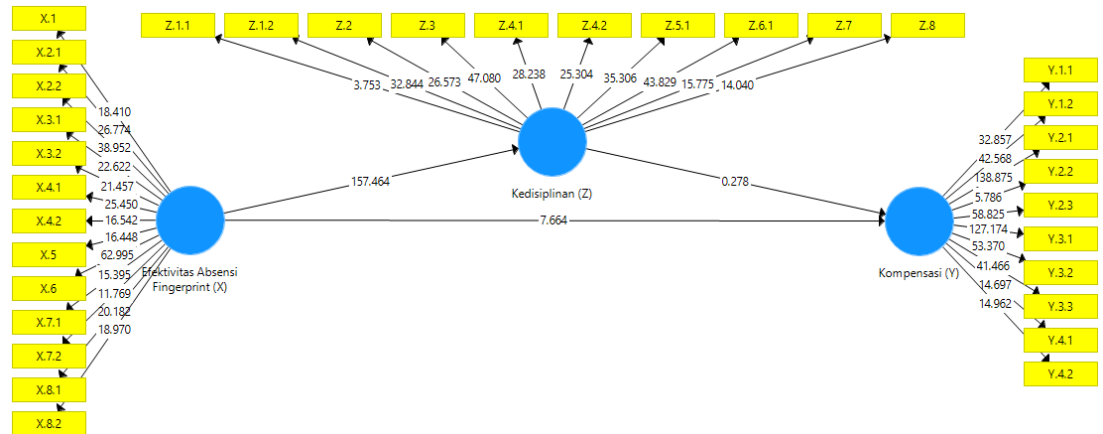
Figure 1. Structural Model of Research Construct Variables

Based on Figure 1, the path analysis model with three main variables, namely Fingerprint Attendance Effectiveness (X), Discipline (Z), and Compensation (Y). X affects Y directly (7.664) and through Z as a mediator (157.464 to Z, 0.278 to Y). Each variable is measured through several indicators. This model illustrates a positive relationship between attendance effectiveness, discipline, and compensation.

DISCUSSION

The Influence of Fingerprint Attendance Effectiveness on Discipline shows a very significant relationship with a coefficient of 0.952 and a T Statistics value of 157.464, and a p value of 0.000 (<0.005) which is far above the significance threshold. This indicates that the implementation of effective fingerprint attendance can substantially increase employee discipline. These results are consistent with the research of Ferdye et al. (2024), which states that the use of modern attendance technology, such as fingerprints, has a positive impact on employee work discipline. The study explains that this technology reduces the possibility of manipulation of attendance data and provides more transparent supervision, thus motivating employees to be present on time and comply with company rules.

Fingerprint attendance not only acts as a monitoring tool, but also creates awareness among employees about the importance of personal responsibility for working hours. This is in line with the results of this study, where increased discipline not only reflects compliance with policies but also creates a more orderly and organized work culture. Therefore, the effective use of fingerprint attendance can be considered as one of the relevant human resource management strategies to support the improvement of discipline in the work environment. The results of this study indicate that work discipline has a positive and significant effect on compensation with a T-statistic value of 6.278 and a P-value <0.05. This means that employee discipline has a large contribution in influencing the decision to provide compensation by the company. Employees who demonstrate high discipline, such as being on time, obeying the rules, and completing tasks on time, are considered more productive and reliable, which makes them more entitled to better compensation.

Previous research by Noviyanti et al. (2024), supports this finding, stating that work discipline is closely related to better performance, which in turn encourages compensation. Discipline not only increases productivity, but also strengthens the relationship between employees and the company, thus creating a more stable work environment and motivating the company to provide appropriate rewards, both financially and non-financially. The effect of fingerprint attendance effectiveness on compensation shows a significant relationship, as shown in this study with a T-statistic value of 7.664 and a P-value <0.05. Good fingerprint attendance effectiveness ensures that employee attendance is recorded accurately, thus affecting the compensation system based on actual working hours. Employees who are present on time and according to

schedule tend to get better compensation, because fingerprint attendance reduces the potential for manipulation of attendance data.

Previous research by Nguyen-Tat et al. (2024), supports this finding, showing that the use of attendance technology such as fingerprints plays a role in increasing transparency in employee attendance management. An effective attendance system, companies can more easily manage compensation based on actual attendance, reducing the possibility of mismatch between work and rewards received. This is in line with research results showing that fingerprint attendance contributes to more accurate and fair compensation for employees. The results of this study indicate that the effectiveness of fingerprint attendance has an indirect effect on compensation through discipline. The indirect effect coefficient obtained is 0.873 with a T-statistic of 6.739, which indicates that discipline acts as a significant mediator in the relationship between the effectiveness of fingerprint attendance and compensation. This means that a more effective attendance system improves employee discipline, which then contributes to better compensation by the company. Previous research by Mufron & Wei (2024), suggests that the use of attendance technology, such as fingerprints, plays an important role in improving employee discipline. This system automatically records attendance, reducing the possibility of employees arriving late or manipulating attendance. Good discipline has implications for increased performance and motivation, which can ultimately affect the compensation given. Disciplined employees tend to meet company expectations, so they are more appreciated through appropriate compensation, which reflects their contribution to the organization.

CONCLUSION

The results of the study indicate a significant relationship between the effectiveness of fingerprint attendance, discipline, and compensation in the organization. Effectiveness of Fingerprint Attendance on Discipline The implementation of an effective fingerprint attendance system significantly increases employee discipline. This is evidenced by the relationship coefficient of 0.952 and a very high T-Statistics value (157,464). A transparent and accurate fingerprint attendance system helps create a culture of discipline and responsibility in the workplace. Employee discipline has a significant positive effect on compensation, with a coefficient of 0.834 and a T-Statistics of 6,278. This indicates that employees who are more disciplined tend to get better compensation because they are considered more productive and in accordance with company expectations. The fingerprint attendance system also has a significant direct relationship with compensation, as indicated by a coefficient of 0.912 and a T-Statistics value of 7,664. This shows that the use of modern attendance technology ensures transparency and accuracy in recording working hours, which is the basis for providing fair compensation. Discipline acts as a significant mediator in the relationship between fingerprint attendance effectiveness and compensation, with an indirect effect coefficient of 0.873. An effective attendance system encourages discipline, which ultimately contributes to better compensation.

REFERENCES

[1]   Afriani, D., & Maliah, M. (2021). Pengaruh penggunaan absensi fingerprint dan pengawasan terhadap disiplin kerja pegawai pada JNE palembang. *Jurnal Media Wahana Ekonomika*, *18*(1), 34-54.

[2]   Amir, M. F. (2015). *Memahami evaluasi kinerja karyawan, konsep, dan penilaian kinerja di perusahaan*. Jakarta: Mitra Wacana Media.

[3]   Annas, A. (2017). *Interaksi pengambilan keputusan dan evaluasi kebijakan* (Vol. 1). Makassar: Celebes Media Perkasa.

[4]   Cahyadi, N., Joko Sabtohadi., Alkadrie., Megawati., Khasanah., Djajasinga, N. D., & Lay, A. S. Y. (2023). *Manajemen sumber daya manusia*. Batam: CV Rey Media Grafika.

[5]   Dahlan, P. (2020). Pengaruh motivasi dan disiplin kerja terhadap kinerja guru sd negeri 21 palembang. *Jurnal Manajemen*, *8*(3), 58-77.

[6] Davis, G. B. (1991). *Kerangka dasar sistem informasi manajemen*. Jakarta: Pustaka Binaman Presindo.

[7] Dewa, A. (2023). The influence of work ability, work discipline and work environment on employee performance. *Economic and Business Horizon*, *2*(3), 1-10.

[8] Fauziah, S. I., & Baskara, I. (2024). The effect of work environment and work discipline on employee performance through motivation. *Jurnal Ilmiah Manajemen Kesatuan*, *12*(3), 649-660.

[9] Ferdye, M. A., Supriaddin, N., & Putera, A. (2024). The implementation of fingerprint absence and online absence in improving work discipline. *Jurnal Ilmiah Manajemen Kesatuan*, *12*(1), 255-264.

[10] Haqi, B., Kom, M., & Setiawan, H. S. (2019). *Aplikasi absensi dosen dengan java dan smartphone sebagai barcode reader*. Yogyakarta: Elex Media Komputindo.

[11] Haryono, S. (2016). *Metode SEM untuk penelitian manajemen dengan AMOS, LISREL. PLS.* Tangerang: PT. Intermedia Personalia Utama.

[12] Hasibuan, M. S. (2008). *Manajemen sumber daya manusia*. Jakarta: Bumi Aksara.

[13] Ilmi, M., & Juliana, S. (2023). The effect of motivation and compensation on employee performance in South Tangerang. *Jurnal Ilmiah Manajemen Kesatuan*, *11*(3), 1095-1102.

[14] Kasmir, K. (2016). *Manajemen sumber daya manusia (teori dan praktik).* Jakarta: Rajawali.

[15] Mahmud, I., Kalsum, U., & Abbas, B. (2023). How work commitment, work discipline, and workload mediate the relationship between organizational culture and employee performance?: empirical evidence in land office of Southeast Sulawesi province. *Economic and Business Horizon*, *2*(1), 12-23.

[16] Mufron, A., & Wei, Z. (2024). Applying biometric technology in school attendance and security management. *Al-Hijr: Journal of Adulearn World*, *3*(2).

[17] Nguyen-Tat, B. T., Bui, M. Q., & Ngo, V. M. (2024). Automating attendance management in human resources: A design science approach using computer vision and facial recognition. *International Journal of Information Management Data Insights*, *4*(2), 100253.

[18] Noviyanti, D., Supardi, S., & Dharmanto, A. (2024). Pengaruh kedisiplinan terhadap kinerja karyawan melalui kompensasi pada koperasi karyawan PT. Kawasan Berikat Nusantara (Persero). *Jurnal Penelitian Ekonomi Manajemen dan Bisnis*, *3*(2), 68-79.

[19] Oktafiana, W., Riono, S. B., Syaifulloh, M., & Kristiana, A. (2020). Pengaruh efektivitas penerapan absensi finger print di badan pengelolaan pendapatan keuangan dan aset daerah (bppkd) kabupaten brebes. *Journal of Economic and Management (JECMA)*, *2*(2), 23-32.

[20] Pradila, A. T., & Fadli, J. A. (2023). The effect of salary and work-life balance on employee productivity with the mediation of employee work motivation at coffee shops in Jabodetabek. *Jurnal Ilmiah Manajemen Kesatuan*, *11*(3), 1505-1518.

[21] Sari, A. R. (2021). *Efektivitas peran kelurahan dalam pelayanan administrasi kependudukan*. Pekalongan: Penerbit NEM.

[22] Sugito, S., & Ghoniyah, N. (2017). Model of human resources performance improvement at port operator unit (upp) class iii jepara, pati and rembang through knowledge sharing, quality of information technology and commitment as intervening variable. *IJIBE (International Journal of Islamic Business Ethics)*, *2*(3), 125-136.

[23] Sugiyono, P. D. (2017). *Metode penelitian bisnis: pendekatan kuantitatif, kualitatif, kombinasi, dan R&D*. Bandung: CV. Alfabeta.

[24] Suryanto, S., & Tyas, A. A. W. P. (2024). Enterprise resource planning implementation towards improving company performance. *Jurnal Ilmiah Manajemen Kesatuan*, *12*(3), 797-804.

[25] Zulfikar, D., & Kurniawati, E. (2020). Pengaruh efektivitas absensi finger print terhadap disiplin pegawai pada kantor kesyahbandaran dan otoritas pelabuhan (KSOP) Kelas IV Bima. *ARBITRASE: Journal of Economics and Accounting*, *1*(1), 11-16.