THE EFFECT OF LEADERSHIP AND THE IMPLEMENTATION OF THE FINGERPRINT ABSENCE MODEL ON WORK PRODUCTIVITY WITH WORK DISCIPLINE AS A MODERATING VARIABLE OF AUTOMOTIVE COMPANIES IN INDONESIA

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Abstract

This study aims to analyze the influence of Leadership and Application of Fingerprint Attendance Model to Work Productivity With Work Discipline as Moderating Variable. In this research, sampling method used is accidental sampling method (non-probability sampling). In this study using three variables, independent variables are Leadership (X1) and Attendance Model Fingerprint (X2) with dependent variable is Productivity (Y) and moderating variable is Discipline (Z). Population in this research is employees at PT. ASTRA Daihatsu Motor, and samples are 85 respondents. The result of the research shows that Leadership variable is not able to moderate to Work Productivity, Fingerprint Attendance Model variable has a significant effect on Work Productivity, Work Discipline variable also has a significant effect on Work Productivity, Leadership and Work Discipline is not able to moderate to Work Productivity, Fingerprint and Discipline Attendance Model Work is also not able to moderate against Work Productivity.

Keywords*: leadership, fingerprint attendance model, work productivity, work discipline.*

Abstrak

Penelitian ini bertujuan untuk menganalisa pengaruh Kepemimpinan dan Penerapan Model Absensi Fingerprint Terhadap Produktivitas Kerja Dengan Disiplin Kerja Sebagai Variabel Moderating. Dalam penelitian ini, metode pengambilan sampel yang digunakan adalah metode accidental sampling (non-probability sampling). Didalam penelitian ini menggunakan tiga variabel yaitu, variabel independen adalah Kepemimpinan (X1) dan Model Absensi Fingerprint (X2) dengan variabel dependen adalah Produktivitas (Y) serta variabel moderating adalah Disiplin (Z). Populasi dalam penelitian ini adalah pegawai di PT. ASTRA Daihatsu Motor, serta sampelnya sebanyak 85 responden. Hasil penelitian menunjukkan bahwa variabel Kepemimpinan tidak mampu memoderasi terhadap Produktivitas Kerja, variabel Model Absensi Fingerprint berpengaruh signifikan terhadap Produktivitas Kerja, variabel Disiplin Kerja juga berpengaruh signifikan terhadap Produktivitas Kerja, Kepemimpinan dan Disiplin Kerja tidak mampu memoderasi terhadap Produktivitas Kerja, dan Model Absensi Fingerprint dan Disiplin Kerja juga tidak mampu memoderasi terhadap Produktivitas Kerja.

Kata Kunci*: kepemimpinan, model absensi fingerprint, produktivitas kerja, disiplin kerja.*
JEL: M12

1. Research Background

As the world develops, companies are facing several challenges like customers that are getting more critical, unpredictable, and hardly satisfied. Facing the competition in business world, especially in the sector of automotive industry, PT. ASTRA Daihatsu Motor (ADM) as a

Brand Holder Sole Agent is striving to continuesly improve the quality of their performance, especially in its production system. PT. ASTRA paid a great deal of importance to the quality of car produced by PT. ASTRA Daihatsu Motor which consists of 6 plants, namely: Stamping, welding, painting, engine manufacturing, assembling, and Quality Inspection. Assembling plant is the center of car assembly that is supported by other divisions and this department is expected to create products or goods with a standardized quality.

Table 1. Awards of PT. ASTRA Daihatsu Motor (ADM)

Year	Awads	Summary
2010	*Value for Money Cara of the Year*	ADM received *Value for Money Cara of the Year* award for Daihatsu Xenia.
2011	*IQS J.D.*	ADM won Indonesia IQS J.D. Power Awards 2010 for Daihatsu Terios and Luxio. This award indicates that Daihatsu has received trust from customers who use Daihatsu cars as their vehicle both for daily acivities and vacation with family (SEO Daihatsu Contest, 2011).
2012	*JD Power Asia Pasific*	ADM got the award from JD Power Asia Pacific as the champion in terms of customer satisfaction index during sales (SSI). ADM won the highest points along with Mitsubishi at 780 SSI points, which is customer satisfaction from those coming to outlets, greeted by security guards, welcomed by sales force, speed of administration handling, to the quality of vehicle delivery services to customers' home. JD Power surveyed 2,454 new Daihatsu car buyers during the period of September 2014 to June 2015 (Berita Satu, Yuliantino Situmorang/Merdhy Pasaribu/YS, and December (2015).
2015	Received an award certificate from Indonesian Minister of Industry, Saleh Husin upon producing 4 million cars	ADM received an award certificate from the Indonesian Minister of Industry, Saleh Husin for the achievement of producing 4 million units and its contribution to automotive industry development within the country (Astra Magazine, May 2015). PT. ASTRA Daihatsu Motor (ADM) in North Jakarta was awarded at the Best Outlet Dealer Outlet event; won by Asco Daihatsu.

Source : Data internal PT. Astra Daihatsu Motor (2017).

PT. ASTRA Daihatsu Motor (ADM) aims to create products with standardized quality by paying attention to work productivity and employee discipline, thus they create an attendance system by using the fingerprint attendance system. Fingerprint is one form of biometrics, which uses employees' physical characteristics to identify them. The use of fingerprint attendence system will reduce problems caused by manual attendence system users. With the establishment of fingerprint attendence system, fraud such as data manipulation and false attendence that often occurs can be reduced; thus fingerprint helps to improve employee discipline.

Table 2. Attendence Category

Kategori Absen	Summary
P3	Skorsing
P8	Meninggalkan Pekerjaan > 4 Jam dan Kembali Bekerja
P9	Meninggalkan Pekerjaan < 4 Jam dan Tidak Kembali Bekerja
T1	Telat > 1 Jam
T3	Telat > 3 Jam

Source : Data internal PT. Astra Daihatsu Motor (2017).

Attendence level at PT. ASTRA Daihatsu Motor (ADM) has various categories listed according to these rules, namely:

Table 3. Employee Attendance Recapitulation for August 2017

Month	Days	P3	P8	P9	T1	T3
August	31	2	2	-	4	7
September	30	-	5	1	-	13

Source: Data internal PT. Astra Daihatsu Motor (2017).

In reality, there are few employees who still violate the attendence discipline regulation. This shows that the level of employees discipline needs to be questioned. Fingerprint attendence system has been used by PT. ASTRA Daihatsu Motor (ADM) for a long time, but the application of fingerprint attendance system is not effective because there are a lot of employees who are not being discipline withe their working hours or practicing time corruption.

The following table shows the production of various car brands and types at PT. ASTRA Daihatsu Motor during a month in April

Table 4. Production during April

Cars	Total	Silver 1E7	Black Me X12	Champ T23	Dk. Brown 4U3	White W09	Dk. Res MM 3Q3	Ne Blue 8X2	Gray Me 1G3
Xenia	2520	562	631	-	76	850	143	-	258
Avanza	11801	2570	3735	18	30	4011	558	38	841
Avanza Export	3568	713	366	394	1	1020	50	231	793
Total	17889	3845	4732	412	107	5881	751	269	1892

Source: Data internal PT. Astra Daihatsu Motor (2017).

Table 5. Production during April

Cars	Total	Silver 1E7	Black Me X12	Two Tone XF8	Champ T23	White W09	Dk. Red MM 3Q3	Neb. Blue 8X2	Gray Me 1G3
Terios	1320	187	297	200	-	498	54	-	84
Rush	2250	194	750		8	1045	125	8	120
Rush Export	4	1			1	1			1
Total	3574	382	1047	200	9	1544	179	8	205

Source: Data internal PT. Astra Daihatsu Motor (2017).

Table 6. Production during April

Keterangan	Tipe	Total	Silver 1E7	Grey 1G3	White W09	Black X09	Black X12
D91L-DOM	VAN	1401	376	59	833	133	-
	PU	4200	685	685	1170	1660	-
	D88D	450	85	85	195	-	85
	Total	6051	1146	829	2198	1793	85
D91L–GEN. EXP	VAN	5	2	-	3	-	-
	PU	80	-	-	80	-	-
	Total	85	2	-	83	-	-
D92l–TMC	VAN	919	337	-	582	-	-
	PU	299	76	-	223	-	-
	Total	1218	413	-	805	-	-
TOTAL		7354	1561	829	3086	1793	85

Source: Data internal PT. Astra Daihatsu Motor (2017).

Car production at PT. Astra Daihatsu Motor spends as much as 1 minute 2 seconds for every unit, thus it is estimated that they can produce as much as +/- 1,000 cars in a day. The process of car assembly at PT. Astra Daihatsu Motor uses a design process system. This design process can simplify the work effectively and efficiently, thus it can increase the production of a component that has been previosuly produced. This car assembly design process can be arranged according to the workpiece needed to be made. With machining process that gets faster, production costs will decrease and this will affect profits earned by product manufacturer. It can also accelerates the frame manufacturing process and reduce the welder error in a difficult welding positions.

1.1. The Effect of Leadership on Work Productivity

According to Hasibuan (2012), leadership is a very important thing in management. Due to the existence of leadership, the management process will run well and employees will be passionate in doing their jobs. The influence of a leader in managing his employees well can provide a stimulation effect for employees to work better and achieve desired productivity and goals. However this can only work well if the influence was not based on their desire to force. If it was created with a force, then employees will consider it as a burden in performing their job and there will be no harmony within the organization.

Previous research conducted by Liu and Meissner (2015) and Wakefield (2001) states that leadership has a significant effect on Work Productivity. Based on the results of previous research and arguments as presented above, it is determined H_1 = It is Expected that Leadership Has Positive Impact on Work Productivity

1.2. The Effect of Fingerprint Attendence Model on Work Productivity

According to Suyadi (2010) fingerprints are culottes on palms or feet which are covered by small embossed lines called friction joints. Fingerprint has an accuracy rate of 90% -95% and is not affected by any conditions and does not change throughout life. Fingerprint is a genetic structure in the form of a framework that is very detailed and a sign that is inherent in humans that cannot be removed or changed. Fingerprints are like human self barcodes that indicate there is no one who is the same as others. Fingerprints are specific, permanent and easily classified.

Previous research conducted by Nwoye (2016) state that Fingerprint Attendance Model has a significant effect on Work Productivity. Based on the results of previous studies and arguments as presented above, it is determined H_2 = It is Expected that Fingerprint Attendance Model Has Positive Effect on Work Productivity.

1.3. The Effect of Work Discipline on Work Productivity

Employee work discipline is one of the things that must be paid attention into in order to achieve organtizational goals, namely to be effective and efficient (Hedy 2011). The practice of work discipline within the company will encourage employees to continuesly improving their work performance and obeying company regulations. Disciplinary action for employees should be implemented equally. This means that disciplinary action applies to all, does not choose, sort out and side with anyone who violates will be subject to disciplinary sanctions the same including for managers or leaders, because leaders must set an example for their subordinates.

Previous research conducted by Dunggio (2013), which states that leadership has a significant effect on Work Productivity. Based on the results of previous studies and arguments above, it is determined H_3 = It is Expected that Work Discipline Has Positive Work Productivity Effect

1.4. The Effect of Leadership and Work Discipline on Work Productivity

Companies are trying hard to employed people who can deliver a good performance in the form of high work productivity in order to achieve its goals. According to Hariandja (2002) there are a lot of factors that can affect productivity including work discipline, ability, situation and circumstances, motivation, wages, educational level, work agreement, and technology implementation. Another factor that determines productivity is work discipline. The absence of discipline will affect efficiency and tasks effectiveness. From a leadership style, a leader should be able to manage emotions very well in order to build firmness in themselves; so that employee discipline can be applied in predetermined rules to achieve high work productivity.
Previous research conducted by Visba et al. (2016) state that leadership has a significant effect on work discipline and work productivity. Based on the results of previous studies and arguments above, it is determined: H_4 = It is Expected that Work Leadership and Discipline Has Positive and Significant Effect on Work Productivity.

1.5. The Effect of Fingerprint Attendence Model and Work Discipline on Work Productivity

According to Misbach (2010) fingerprint is a genetic structure in the form of a framework that is very detailed and a sign that is inherent in humans that cannot be removed or changed. Using fingerprint attendance machine is the right action to be taken in order to build a good performance. Employee work discipline is one of the requirements that have to be

fulfilled by the company to have a good performance and achieve its objectives. Thus employee will be able to perform such outstanding work or skills compared to the usual one and finally drive efficiency in production.

Previous research conducted by Prihatinta and Wiwoho (2017) states that the fingerprint attendance model has a significant effect on work discipline and work productivity. Based on the results of previous studies and arguments above, it is determined H_5 = It is Expected that Fingerprint Attendance Model and Work Discipline Have Positive and Significant Effect on Work Productivity.

2. Research Method

The sampling technique used is nonprobability sampling. The sampling method used is the incidental sampling method. According to Sugiyono (2012), Incidental Sampling is a technique to determine samples based on coincidence, which means that anyone who accidentally met the researcher can be used as a sample, if that person is considered to be a match to be used as a data source.

This research gathered data by using questionnaires distributed to employees of PT. ASTRA Daihatsu Motor. The arrangement of measurement scale uses likert summated ratings (LSR) method. With alternative choices of 1 to 5 answers presented for each question and data were being processed by using PLS (Partial Least Square).

3. Result and Discussion

3.1. Measurement Model Evaluation (Outer Model)

3.1.1. Validity test

Outer loadings (measurement model) or convergent validity is used to test the unidimensionality of each construct. According to Chin (1998), a reserach is said to be valid if the indicator value of loading factors is greater or equal to 0.5.

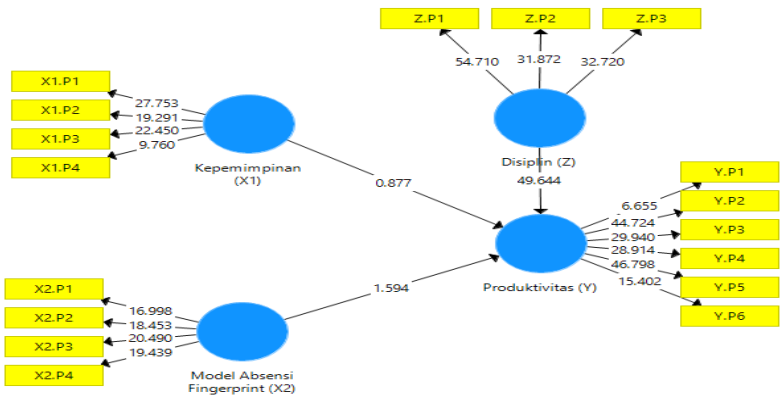

Figure 1. Research Results of Validity Test

Source: PLS (2017).

Table 7. Outer Loadings Table

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/ STDEV|)	P Values
X1.P1	0.881	0.877	0.037	23.972	0.000
X1.P2	0.878	0.871	0.050	17.427	0.000
X1.P3	0.882	0.874	0.042	20.785	0.000
X1.P4	0.656	0.660	0.066	9.944	0.000
X2.P1	0.842	0.840	0.046	18.184	0.000
X2.P2	0.791	0.792	0.042	18.694	0.000
X2.P3	0.855	0.857	0.038	22.242	0.000
X2.P4	0.862	0.860	0.042	20.363	0.000
Y.P1	0.503	0.496	0.077	6.560	0.000
Y.P2	0.917	0.916	0.019	47.237	0.000
Y.P3	0.910	0.009	0.026	34.953	0.000
Y.P4	0.889	0.891	0.030	29.804	0.000
Y.P5	0.925	0.925	0.020	46.742	0.000
Y.P6	0.807	0.805	0.052	15.634	0.000
Z.P1	0.936	0.936	0.017	55.622	0.000
Z.P2	0.930	0.929	0.025	36.984	0.000
Z.P3	0.906	0.908	0.026	34.518	0.000

Source: PLS (2017).

Data is considered valid if the value of original sample is bigger than 0.5. Data variants considered valid are X_1P1, X_1P2, X_1P3, X_1P4,X_2P1, X_2P2, X_2P3, X_2P4, YP1, YP2, YP3, YP4, YP5, YP6, ZP1, ZP2, and ZP3. Based on the result of validity test above, all original sample values are bigger than 0.5, means that all variable indicators are valid.

3.1.2. Reliability test

Data reliability test is conducted by composite reliability with result as follows: Chin (1998) states that a research is considered to be reliable if the value from composite reliability test is bigger than 0.8.

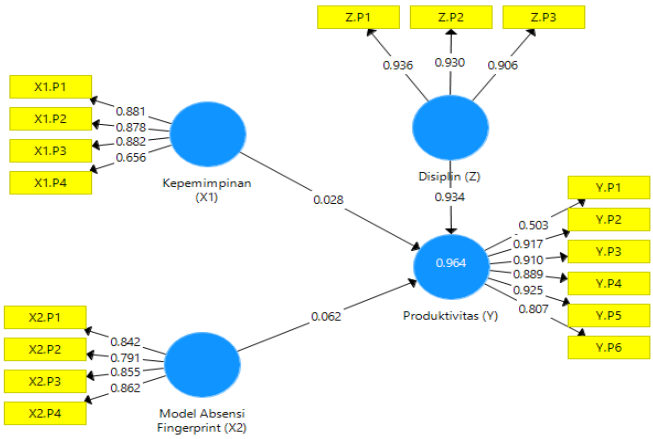

Figure 2. Reliability Test Research

Source: PLS (2017).

Table 8. Construct Reliability and Validity Table

Variables	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Dicipline	0.914	0.915	0.946	0.854
Leadership	0.843	0.842	0.897	0.689
Fingerprint Attendence Model	0.858	0.861	0.904	0.702
Productivity	0.908	0.938	0.932	0.703

Source: PLS (2017).

Reliability is the extent to which a test measurement remains consistent after repeated tests were conducted for the same subject and condition. Research is considered to have a consistent result if the value of original sample is bigger than 0.8. Thus, it can be concluded that data variables namely Discipline, Leadership, Fingerprint Attendance Model, and Productivity are reliable.

3.2. Inner Model

Data is considered as significant if the value of T-statistics is above 1.96; or P-Value is less than 0.05.

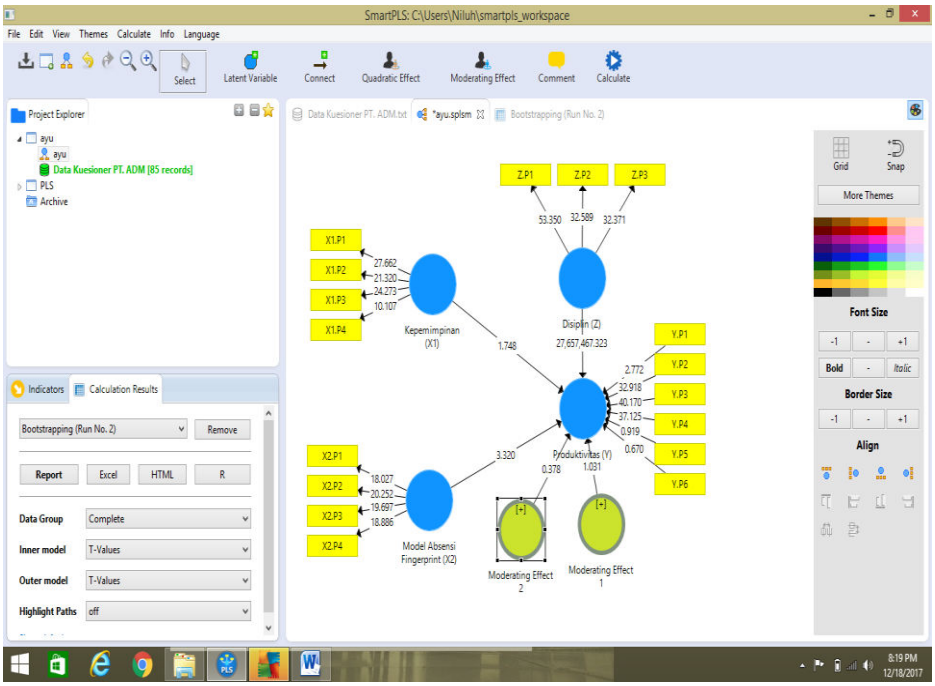

Figure 3. Inner Model Research

Source: PLS (2017)

Table 9. Path Coefficients

Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/ STDEV|)	P Values
Dicipline (Z) – Productivity(Y)	1.000	1.000	0.000	27.657.467.323	0.000
Leadership (X1) - Productivity (Y)	-0.000	-0.000	0.000	1.748	0.081
Fingerprint Attendence Model (X2) – Productivity (Y)	0.000	0.000	0.000	3.320	0.001
Moderating Effect 1 – Productivity (Y)	-0.000	-0.000	0.000	1.031	0.303
Moderating Effect 2 - Productivity (Y)	0.000	0.000	0.000	0.378	0.706

Source: PLS (2017).

3.2.1. Discussion of H_1

Based on the figure and table presented above, leadership (X_1) does not affect productivity (Y) significantly, because the T-statistic value is 1,748 or lower than 1.96 with P-Values less than 0.05. This shows that leadership (X_1) does not have a significant effect on productivity (Y), thus H_1 is rejected. The result of this research is contradicted the research conducted by Liu and Meissner (2015) and Wakefield (2001) that obtained result as follows: leadership has a significant effect on productivity.

3.2.2. Discussion of H_2

Based on the figure and table presented above, Fingerprint Attendance Model (X2) has

a significant effect on Productivity (Y), because the T-statistic value is 3.320 or bigger than 1.96 with P-Values less than 0.05. This shows that discipline (Z) has a significant effect on productivity (Y), thus H_2 is accepted. The result of this reserach is supported by Kristin (2016) and Nwoye (2016) whom stated that fingerprint attendance model has a significant effect on productivity.

3.2.3. Discussion of H_3

Based on the figure and table presented above, discipline (Z) has a significant effect on productivity (Y), because the T-statistic value is 27,657,467,323 or greater than 1.96 with P-Values less than 0.05. This shows that discipline (Z) has a significant effect on productivity (Y), thus H_3 is accepted. The result of this research is supported by Dunggio (2013) and Nitisemito (2002) whom stated that discipline has a significant effect on productivity.

3.2.4. Discussion of H_4

Based on the figure and table presented above, leadership and discipline do not have a siginificant effect on productivity (Y), because the value T-statistic is 1.031 or less than 1.96 with P-Values less than 0.05. This shows that the leadership and discipline have no significant effect on productivity (Y), thus H_4 is rejected. The result of this research is contradicted with the research conducted by Supartha (2007) and Visba et al. (2016) that obtained result as follows: leadership and discipline have a significant effect on productivity.

3.2.5. Discussion of H_5

Based on the figure and table presented above, the fingerprint attendance model and discipline have no significant effect on productivity (Y), because the T-statistic value is 0.378 or less than 1.96 with P-Values greater than 0.05. This shows that the fingerprint attendance model and discipline have no significant effect on productivity (Y), thus H_5 is rejected. The result of this research is contradicted the research conducted by Wiwoho (2007) and Kleinman et al. (2007) that obtained result as follows: fingerprint attendance model and discipline have a significant effect on productivity.

4. Conclusion

Based on the results of the analysis and discussion conducted, the results obtained are: first, the research that has been conducted shows leadership has an insignificant effect on productivity. This might be due to the inability of a leader to control others in order to obtain maximum results with least friction and great cooperation, as well as the absence of a program and cooperations among the organizational members to achieve goals. Second, the research that has been conducted shows that fingerprint attendance model has a significant effect on productivity because the users of fingerprint attendance model are satisfied with the ease in employee productivity activities. Third, the research that has been conducted shows that disciplines has a significant effect on productivity because employees of PT. ADM have a high discipline level in order to achieve company goals effectively. Fourth, the research that has been conducted shows leadership and disciplines have an insignificant effect on productivity. This might be due to the disharmony between superiors and subordinates, and the lack of a leader's discipline in doing something or performing his job, thus the employees are doing the same as the leader. Fifth, the research that has been conducted shows that fingerprint attendance model and disciplines altogether have an insignificant effect on productivity. This might be due to several factors such as employees' negligence in coming in time that caused fingerprint-based attendance unable to respond. The fingerprint attendance machine has previously experienced defect or jam, thus it was unable to respond to fingerprints; which furthermore caused an inhibition in employees' attendance.After knowing and discussing about "The Effect of Leadership and Application of Fingerprint Attendance Model on Work

Productivity with Work Discipline as Moderating Variables", the authors provide suggestions, namely: For further researchers, it is expected that there will be greater number of samples by means of sending questionnaires to PT. ADM in order to obtain better data and results and it is also expected to add other variables that may affect the productivity of PT. ADM employees. PT. ADM should respond to conflicts among their employees faster. It is good if leaders at PT. ADM pay more attention and understand their employees' intention, as well as improving their Fingerprint Attendance Model.

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