

Millennial Leaders and Worker Loyalty: The Influence of Leadership Style on Worker Loyalty of PT Xyz's Production Operations Division

Anwar Rifai, Bobby W Saputra

Sekolah Tinggi Ilmu Ekonomi Harapan Bangsa, Indonesia Emails: mm-24131@students.ithb.ac.id, bobby@ithb.ac.id

ABSTRACT

This study aims to analyze the influence of millennial leadership style on employee loyalty in the Production Operations Division of PT XYZ, an energy company in the oil and gas sector. Employing a quantitative approach through simple linear regression, the study involved 68 respondents, including production operators and laboratory technicians. The millennial leadership style was measured using six key indicators, while employee loyalty was assessed through five indicators reflecting affective commitment and organizational attachment. The statistical analysis reveals that the millennial leadership style has a strong and significant effect on employee loyalty, with a coefficient of determination (R²) of 0.765. This means that 76.5% of the variation in loyalty is explained by leadership factors. The most influential indicators are decision-making ability and emotional control, both correlating at 0.66. Open communication and a sense of responsibility were also highly valued by employees. Workers expressed strong loyalty when led by empathetic, supportive, and communicative leaders. Conversely, the absence of such leadership increased the risk of turnover intentions. This study concludes that effective millennial leadership significantly enhances employee loyalty and provides protective effects against workforce turnover. Thus, a leadership approach rooted in empathy, collaboration, and participative management is essential for fostering emotional bonds and ensuring long-term organizational sustainability.

KEYWORDS

3-5 Millennial leadership style, Employee loyalty, Empathy, Decision making



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INTRODUCTION

The Millennial Generation, or often referred to as Generation Y, is made up of individuals born between 1981 and 1996. Although there are differences in determining the range of years of birth, most sources and studies refer to the period 1981 to 1996 as the most commonly used range. Anyone born between 1981 and 1996 (aged 23 to 38 in 2019) is considered a Millennial, and anyone born from 1997 onwards is part of the new generation (Corbisiero, Monaco, & Ruspini, 2022; Dimock, 2019; Rekker, 2024). Generation Z is a generation born in the span of years between 1997 and 2012, precisely after the generation *millennium* or generation Y. This generation is growing and developing in the midst of the rapid development of digital technology and the internet, which shapes their characteristics, lifestyles, and ways of thinking. As a generation that is often between two major eras, namely the period before the digital revolution and today's all-connected era, Millennials have an important role in adapting to change, both in the world of work and in various aspects of industrial life. They are known to be a highly skilled group in utilizing technology, tend to be more open to change, and have a different view of work values and life balance compared to previous generations.

With 70.72% of Indonesia's population being of productive age (15 to 64 years), the country is taking advantage of the demographic bonus which is expected to be the main driver in reaching the industrial era in 2045. The Millennial Generation is the second largest generation in Indonesia, covering 25.87% of the total population or around 69.38 million people, after Generation Z which consists of 27.94% or 74.93 million people. Because all members of the Millennial generation are now in productive age, they play a crucial role in encouraging the country's economic growth. While there is a lot of discussion about Millennials, the big discussions are often based on anecdotal stories that are not supported by data and evidence, so they can risk more harm than good. Understanding Millennials, starting from their lifestyle, perspective, values, to life goals and challenges they face, will greatly help

us in finding the right path to achieve Indonesia's industrial era. Indonesian millennials in numbers, with 70.72% of the population being in productive age (15 to 64 years), Indonesia is enjoying a demographic bonus, which is expected to help the country reach the industrial era in 2045. The Millennial Generation, born between 1981 and 1996, is the second largest generation in Indonesia with 25.87% of the total population or about 69.38 million people, after Generation Z (born between 1997 and 2012) which consists of 27.94% or about 74.93 million people (Agoes & Agustiani, 2023; Rohman, Fadilla, Ksatria, & Nadhirrahman, 2024).

In the midst of the challenges and rapid changes in the modern world of work, marked by technological advancements, globalization, and shifts in industrial values, important questions arise about how millennial leadership styles can affect worker satisfaction. Employee satisfaction itself is one of the main factors in creating a productive work environment, reducing turnover, and increasing employee loyalty. Therefore, understanding the relationship between millennial leadership styles and employee satisfaction becomes very important (Easton & Steyn, 2023; Long, 2017). Employee loyalty is one of the important factors that needs to be considered by every organization or company, because it can affect the sustainability and success of the company. Employee loyalty not only reflects a long-term commitment to the company, but also through an employee's emotional attachment to the company, which is characterized by the employee's availability to continue to contribute and work towards the achievement of the company's goals.

The results of the study stated that leadership has a significant effect on job satisfaction which also has a positive impact on loyalty with a contribution value of 60.2%. This means that effective leaders, with the appropriate leadership style, are able to create a motivating and fulfilling work environment for employees. Factors such as effective communication, support. The results of the study show that leadership has a significant influence on employee performance and loyalty. Effective leaders with the appropriate leadership style are able to form a positive influence on employees' behavior and attitudes towards the organization. Job satisfaction acts as an intermediary between leadership and employee performance and loyalty. This means that a leader who is able to create high job satisfaction among his employees will help improve their performance and support their loyalty to the organization (Eliyana & Ma'arif, 2019; Purnamasari & Subroto, 2021).

PT XYZ is an oil and gas company appointed as an Operator in the oil and gas field in Indonesia. This oil and gas field has been fully operational with the support of modern and cutting-edge technology in the oil and gas industry, this can be seen from its processing, control and supervision technology using digital technology. So that currently the company has succeeded in operating well and distributing its production products to consumers.

There are two functions in the production operations department that is tasked with leading and directly coordinating the operation and production of this oil and gas processing plant, namely the senior supervisor assisted by the area supervisor and the laboratory supervisor. In terms of the organization, senior supervisors, area supervisors and laboratory supervisors are occupied by experienced workers with an age range of over 30 years in 2025, in general according to the age grouping of area supervisors and laboratory supervisors, this is included in the millennial generation category. As for the production operators and lab technicians, it is a combination of new workers from the fresh graduate program and experienced workers from various ages and different generations.

According to Tara and Novitria in previous research by explaining that millennial leaders have a wide variety of personalities that can help them be effective in leadership roles. A leader's personality can influence the leadership style he or she practices. The characteristics of the millennial generation are the personality of the Millennial Leadership. Millennial leaders have a wide variety of personalities that can help them be effective in leadership roles. Here are some personality traits that are often found in millennial leaders millennial leaders tend to

be open to change and innovation, as well as not afraid to try new things and adapt quickly to technological developments and a changing business environment. They are also collaborative, have the ability to work together in a team, and value the contributions of various team members to create an inclusive work environment. Millennial leaders are technology-oriented, leveraging digital tools and platforms to improve efficiency and communication within organizations. They are communicative, skilled in communicating orally, in writing, and through social media to influence and motivate others. In addition, they are creative and innovative, tend to seek innovative solutions to problems and inspire teams to think outside the box. Millennial leaders also have a high level of empathy for the needs and feelings of team members, caring about the well-being and personal development of employees. They are flexible and able to adapt to changing situations, not stubborn in defending certain approaches if they are not effective. Many millennial leaders have a high level of social awareness, motivating organizations to take on greater social and environmental responsibility. Managerial skills are also important, with them being able to manage resources, make the right decisions, and manage projects efficiently. Lastly, they have a strong sense of responsibility towards the team and the organization, ready to take initiative and tackle challenges with determination.

Millennial leaders with their various advantages as described above and PT XYZ's excellent reputation, but there are still talks between production operators and lab technicians who have the intention to participate in the Recruitment Campaign event held by domestic and foreign companies. This encourages researchers to seek deeper information about the truth of the information obtained through pre-surveys (Charity Hudley & Mallinson, 2017; Sample, 2020).

Based on previous research, millennial employee leadership styles more often use transformational leadership styles compared to other leadership styles. The transactional leadership style is used occasionally, while the laissez-faire style is only used occasionally. By using a transformational leadership style, millennial employees have the potential to make significant contributions to the organization, as this leadership style has been associated with positive outcomes at both the individual and organizational levels, such as improved employee performance, change processes, and organizational innovation. This is in line with the results of the pre-survey conducted by the researcher on the achievements of employees in the production operations division. "Do you have any specific accomplishments during your work? If so, does the supervisor play a role in supporting these achievements?", it was found that 8 out of a total of 8 workers stated that their superiors or supervisors contributed to the achievement of performance and innovations carried out.

According to , loyalty is not only limited to how employees stay in the company, but loyalty is also a sense of being part of the company so that employees can optimize their work results, so that employees can optimize their work results. Loyalty should be closely related to an employee's commitment to the company because it engages them emotionally with the company. This means that loyalty is actually closely related to the employee's commitment to the company's goals and values. Employees who feel emotionally engaged with the company tend to have a stronger commitment to the company's goals and will be more motivated to provide the best results and contribute optimally to the company's success (Osborne & Hammoud, 2017).

According to loyalty is a person's dedication to the company's success as well as the belief that they will continue to contribute to the company's interests (Stojanović, Milošević, Arsić, Urošević, & Mihajlović, 2020). Loyalty is a form of reciprocity that employees give to the workplace. It's not just about employees staying with the company for a long time, but it's also about the deep commitment, dedication, and commitment they bring to the workplace every day. By having loyal employees, companies can achieve sustainable growth and build a culture that promotes collaboration, innovation, and mutual success.

Loyalty is part of the company's core values which become a culture and are emphasized in daily life, the boss is responsible for implementing and conveying this culture to all workers. So that it affects the mentality of the workers directly or indirectly regarding the employee's assessment of the company. Based on the data from the audit assessment, the level of PT XYZ's workers increased from the level of Awareness to Ownership (Fadillah, Amelia, Alfarizi, & Nahrowi, 2024; SUMADI & BAYUNITRI, 2024). This is a good indicator for companies because there is an increase in worker loyalty every year.

To find out more about the current state of organizations and workers, researchers try to find out directly by using a qualitative approach with the interview method, interviews are conducted with random workers based on age, gender, and position.

There are two variables in the interview questions given, namely Leadership style in previous research by Windratno (2021) is the method or approach used by a leader in leading and managing members of his team or organization through a series of behaviors, attitudes, and techniques applied to achieve organizational goals and motivate and influence team members. Indicators of leadership style include communication skills, motivational skills, decision-making, the ability to control subordinates (managerial), responsible, and the ability to control emotions. The second variable is employee loyalty according to Windratno's research, which includes an employee's commitment and loyalty to an agency or company where he works which is reflected in work behavior, job satisfaction, and the desire to continue to stay in the company. Indicators of employee loyalty include loyalty to the company, level of obedience and discipline, responsibility and sincerity in carrying out work, and a sense of belonging and maintaining the company's good name (Prihadini, 2021; Wijayanti, 2024).

The first interview was conducted with a female worker with the initials AB, currently 25 years old and has worked as a production operator for 3 years at PT XYZ. So that in terms of age and work experience, it is good enough as an interview object assuming that you know the condition of PT XYZ well. From the results of the interview, it was found that AB was quite satisfied with the current leadership of his supervisor. AB sees that his current supervisor has the ability to communicate, motivate, make decisions, control subordinates, be responsible, and control emotions quite well (score 4.6 out of 5). So that overall affects their loyalty to the company (score 4.8 out of 5). AB does not plan to leave the company in the near future, is disciplined by the company's regulations, responsible, and maintains the company's good name. However, AB argues that the loyalty of workers will increase if his supervisor listens to and considers the suggestions of the workers and appreciates them properly, this can be seen from his assessment of the decision-making aspect by AB's superiors giving a smaller assessment than other aspects (score 4 out of 5).

The second interview was conducted with a female worker with the initials AC, who is currently 29 years old and has worked as a production admin for 5 years at PT XYZ. So that in terms of age and work experience, it is good enough as an interview object assuming that you know the condition of PT XYZ well. On average, AC is still satisfied with the leadership of its supervisor (score 3.9 out of 5). However, AC sees that there are several aspects that make him dissatisfied with the leadership of his supervisors, namely the lack of motivation and responsibility from his superiors, thus affecting AC's loyalty to the company. AC feels that this company is not like a family or home to him (score 1 out of 5) on the grounds that his supervisor gives him too much work. With a lack of motivation or motivational ability by his supervisors, with a high workload he was unsure whether to stay or move from PT XYZ.

Overall, interviews were conducted with 7 workers with a variation of age of 24 to 41 years and work experience from 3 to above 5 years. Workers stated that their loyalty would increase if their supervisors were willing to give more respect and consideration to their opinions, and give them proper appreciation and appreciation for their performance.

This research has a high urgency because although PT XYZ has adopted advanced

technology and modern organizational structure, the issue of worker loyalty, especially from the millennial generation, is still a challenge. Initial interview results showed that satisfaction with leadership style played a significant role in increasing employee loyalty, but there was a mismatch between employees' expectations of decision-making and the rewards they received. In the midst of efforts to accelerate the transformation of the oil and gas industry through the IOG 4.0 program and increase the participation of the younger generation, this research is relevant to understand how millennial leadership styles affect worker loyalty, especially in the face of shifts in values and expectations between generations. This research aims to delve deeper into the influence of leadership style on worker loyalty at PT XYZ, with the hope of contributing to more adaptive human resource management and in accordance with the needs of millennial generation employees.

The purpose of this study is to determine the influence of leadership style on the loyalty of workers in PT XYZ's production operations division. The benefits of this research include: for academics, this research is expected to contribute to science and education, as well as be a reference for similar research on the influence of leadership style and compensation on employee loyalty; For researchers, this research is expected to add insight and understanding about human resources, especially leadership styles and compensation that affect employee loyalty, as well as become the final thesis project of the Master of Management study program; And for companies, this research is expected to be a consideration for management to optimize leadership style and compensation to increase employee loyalty, thereby supporting the company's sustainability and progress.

METHOD

This study examined the influence of leadership style on employee loyalty in the Production Operations Division of PT XYZ. A quantitative approach with multiple linear regression was applied using data from 204 respondents, with a minimum sample of 41 employees determined through the Slovin formula. Proportionate stratified random sampling was employed. The variables of leadership style and employee loyalty were measured using questionnaires based on a Likert scale, supported by secondary data from literature. Data analysis involved validity and reliability tests, classical assumption tests, and multiple linear regression to assess variable influence. Hypothesis testing was conducted with the t-test and the coefficient of determination (R²). The analysis was carried out using SPSS version 29.0 for Windows.

RESULTS AND DISCUSSION

Validity Test

The validity test was carried out to ensure that the instruments or data obtained from the questionnaire were truly valid and suitable for use in this study. A questionnaire is declared valid if each question item is able to measure what should be measured and provide relevant information to the variables being studied.

In this study, a validity test was conducted on 68 respondents using the Pearson correlation method (*Product Moment*) through the IBM SPSS Statistics 29 application. Validity testing was carried out by comparing the r-calculated value of the processed data with the r-table of the statistical distribution, using a significance level of 5% ($\alpha = 0.05$) and the degree of freedom (df) = N - 2, i.e. 68 - 2 = 66. Based on this value, an r-table of 0.239 was obtained.

The basis for decision-making to determine the validity of an item in this research instrument is as follows:

If r-calculate \geq r-table, then the item is declared valid.

If r-calculate < r-table, then the item is declared invalid.

Table 1. Test Results of All Variables

Variabel No. Item R Count R Table Information Millennial Leadership Style (X) X.1 0.655 0.239 Valid X.2 0.643 0.239 Valid X.3 0.438 0.239 Valid X.4 0.683 0.239 Valid X.5 0.640 0.239 Valid X.6 0.598 0.239 Valid X.7 0.602 0.239 Valid X.8 0.673 0.239 Valid X.9 0.647 0.239 Valid X.10 0.706 0.239 Valid X.11 0.507 0.239 Valid X.12 0.689 0.239 Valid X.14 0.623 0.239 Valid X.15 0.565 0.239 Valid X.15 0.669 0.239 Valid X.17 0.632 0.239 Valid X.16 0.690 0.239 Valid		Table 1. Test Results of All Variables								
X.2	Variabel	No. Item	R Count	R Table	Information					
X.3	Millennial Leadership Style (X)	X.1	0.655	0.239	Valid					
X.4		X.2	0.643	0.239	Valid					
X.5		X.3	0.438	0.239	Valid					
X.6		X.4	0.683	0.239	Valid					
X.7		X.5	0.640	0.239	Valid					
X.8		X.6	0.598	0.239	Valid					
X.9		X.7	0.602	0.239	Valid					
X.10		X.8	0.673	0.239	Valid					
X.11		X.9	0.647	0.239	Valid					
X.12		X.10	0.706	0.239	Valid					
X.13		X.11	0.507	0.239	Valid					
X.14		X.12	0.689	0.239	Valid					
X.15		X.13	0.607	0.239	Valid					
X.16		X.14	0.623	0.239	Valid					
X.17		X.15	0.565	0.239	Valid					
X.18		X.16	0.690	0.239	Valid					
Employee Loyalty (Y) Y.1 O.532 O.239 Valid Y.2 O.721 O.239 Valid Y.3 O.519 O.239 Valid Y.4 O.623 O.239 Valid Y.5 O.579 O.239 Valid Y.6 O.556 O.239 Valid Y.7 O.609 O.239 Valid Y.7 O.609 O.239 Valid Y.8 O.659 O.239 Valid Y.8 O.659 O.239 Valid Y.9 O.711 O.239 Valid Y.10 O.641 O.239 Valid Y.11 O.673 O.239 Valid		X.17	0.632	0.239	Valid					
Y.2 0.721 0.239 Valid Y.3 0.519 0.239 Valid Y.4 0.623 0.239 Valid Y.5 0.579 0.239 Valid Y.6 0.556 0.239 Valid Y.7 0.609 0.239 Valid Y.8 0.659 0.239 Valid Y.9 0.711 0.239 Valid Y.10 0.641 0.239 Valid Y.11 0.673 0.239 Valid		X.18	0.654	0.239	Valid					
Y.3 0.519 0.239 Valid Y.4 0.623 0.239 Valid Y.5 0.579 0.239 Valid Y.6 0.556 0.239 Valid Y.7 0.609 0.239 Valid Y.8 0.659 0.239 Valid Y.9 0.711 0.239 Valid Y.10 0.641 0.239 Valid Y.11 0.673 0.239 Valid	Employee Loyalty (Y)	Y.1	0.532	0.239	Valid					
Y.4 0.623 0.239 Valid Y.5 0.579 0.239 Valid Y.6 0.556 0.239 Valid Y.7 0.609 0.239 Valid Y.8 0.659 0.239 Valid Y.9 0.711 0.239 Valid Y.10 0.641 0.239 Valid Y.11 0.673 0.239 Valid		Y.2	0.721	0.239	Valid					
Y.5 0.579 0.239 Valid Y.6 0.556 0.239 Valid Y.7 0.609 0.239 Valid Y.8 0.659 0.239 Valid Y.9 0.711 0.239 Valid Y.10 0.641 0.239 Valid Y.11 0.673 0.239 Valid		Y.3	0.519	0.239	Valid					
Y.6 0.556 0.239 Valid Y.7 0.609 0.239 Valid Y.8 0.659 0.239 Valid Y.9 0.711 0.239 Valid Y.10 0.641 0.239 Valid Y.11 0.673 0.239 Valid		Y.4	0.623	0.239	Valid					
Y.7 0.609 0.239 Valid Y.8 0.659 0.239 Valid Y.9 0.711 0.239 Valid Y.10 0.641 0.239 Valid Y.11 0.673 0.239 Valid		Y.5	0.579	0.239	Valid					
Y.8 0.659 0.239 Valid Y.9 0.711 0.239 Valid Y.10 0.641 0.239 Valid Y.11 0.673 0.239 Valid		Y.6	0.556	0.239	Valid					
Y.9 0.711 0.239 Valid Y.10 0.641 0.239 Valid Y.11 0.673 0.239 Valid		Y.7	0.609	0.239	Valid					
Y.10 0.641 0.239 Valid Y.11 0.673 0.239 Valid		Y.8	0.659	0.239	Valid					
Y.11 0.673 0.239 Valid		Y.9	0.711	0.239	Valid					
		Y.10	0.641	0.239	Valid					
Y.12 0.621 0.239 Valid		Y.11	0.673	0.239	Valid					
		Y.12	0.621	0.239	Valid					

Based on the table above, it shows that all items are declared valid, because the resulting coefficient is greater than 0.239. So there is no need to replace or delete the statement.

Reliability Test

Reliability tests are carried out to measure the consistency of measuring instruments in producing stable and reliable data when used under similar conditions or repeated at different times. This reliability test was carried out using Cronbach's Alpha method through the SPSS application version 29. A data is declared reliable if Cronbach's Alpha value is greater than 0.6. A \geq value of 0.7 is considered acceptable, and a value above 0.8 indicates an excellent level of reliability. The results of the reliability test in this study show that:

The Millennial Leadership Style variable has a Cronbach's Alpha value of 0.909

Table 2. Leadership Style Reliability Test Results

Reliability Statistics					
Cronbach's Alpha	N of Items				
.909	18				

The Worker Loyalty variable has a Cronbach's Alpha value of 0.856

Table 3. Employee Loyalty Test Results

Reliability Statistics					
of Items					
12					

Thus, it can be concluded that all instruments in this study have a high level of internal consistency and can be used to measure variables reliably. These results are also in line with the theory described in Chapter 2, that constructs such as communication, motivation, responsibility, and loyalty can be measured validly and reliably (Windratno, 2021).

Normality Test

The data normality test was carried out to find out whether the sample used in this study had a normal distribution. The assumption of normality is very important in linear regression analysis because a good regression model requires a normally distributed residual or error in order for the results of statistical analysis to be interpreted correctly.

In this study, the normality test was carried out using the Kolmogorov-Smirnov Goodness of Fit Test through the SPSS application. The basis for decision-making is determined based on the value of significance (*asymptotic significance*) with the following conditions:

If the significance value > 0.05, then the data is declared to be normally distributed If the significance value < 0.05, then the data is declared not to be normally distributed

According to Mintarti Indartini (2024), linear regression analysis as one of the parametric statistical test tools can only be carried out if the data has a normal distribution. If the data is not normally distributed, then the use of parametric statistics should be avoided as it can result in biased or invalid conclusions.

Thus, the normality test is an essential initial stage in ensuring the feasibility of the regression model used in this study.

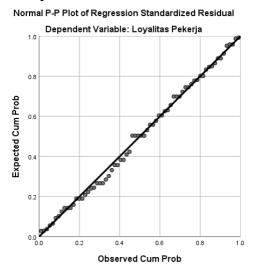


Figure 1. Normality Plot

Based on the normality plot above, it can be seen that the points follow a diagonal line so that it can be concluded that the residual value is distributed normally.

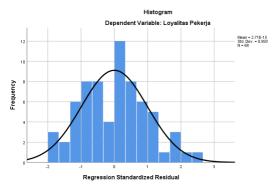


Figure 2. Normality Histogram

Based on the histogram image above, it shows that there are no values that are tilted to the right or to the left, so it can be concluded that the residual values are normally distributed.

Table 4. No	rmality Test Res	ults				
One-Sample Kolmogorov-Smirnov Test						
		Unstandardiz				
		ed Residual				
N		68				
Normal Parameters ^{a,b}	Mean	.0000000				
	Hours of	2.23367839				
	deviation					
Most Extreme	Absolute	.059				
Differences	Positive	.059				
	Negative	048				
Test Statistic		.059				
Asymp. Sig. (2-tailed)		.200c,d				
a. Test distribution is Norr	nal.					
b. Calculated from data.						
c. Lilliefors Significance C	Correction.					
d. This is a lower bound of	f the true significa	nce.				

From the table, it is known that the value of Asymp. Sig. (2-tailed) of 0.200 is greater than 0.05. prove that the data is distributed normally.

Multicollinearity Test

The multicollinearity test is a statistical method used to detect the presence of high linear dependencies between two or more independent variables in a regression model. Multicollinearity can occur when there is a strong correlation between independent variables, which can interfere with the interpretation and reliability of regression results.

If the VIF value is < 10.00, it means that there is no multicollinearity in the regression model, on the contrary, if the VIF value is > 10.00, it means that multicollinearity occurs in the regression model.

	Table 5. Multicollinearity Test Results									
	Coefficients ^a									
Туре		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics			
		В	Std.	Beta			Tolerance	VIF		
			Error							
1	(Constant)	7.061	3.079		2.293	.025				
	Millennial	.577	.039	.875	14.655	.000	1.000	1.000		
	Leadership Style									
a. I	Dependent Variable: En	nployee Loy	alty							

From the above output, the VIF value for all variables is less than 10.00 and the tolerance value is close to 1, it can be concluded that there is no multicollinearity in the regression model.

Autocorrelation Test

The autocorrelation test is a watson wic method used to check the existence of linear dependencies between observations in a time sequence or in a chronologically related data. Autocorrelation occurs when there is a correlation between the values of observations at different times in the time sequence or between related observations in a data.

In this study, the number of respondents used was 68 people (n = 68), with one independent variable, namely Millennial Leadership Style (k = 1). Based on the Durbin-Watson Table for the significance level of 5%, it is known that for n = 68 and k = 1, the lower limit value (dL) is about 1.515 and the upper limit value (dU) is about 1.637. Thus, the value of 4 - dU is 2.363. These values are used as a basis for interpreting the results of the autocorrelation test with the Durbin-Watson method. Autocorrelation occurs when there is a correlation between the values of observations at different times in the time sequence or between related observations in a data.

- 1) If the value of d (Durbin-Watson) is less than dL or greater than (4-dL) it means that there is auto correlation.
- 2) If the value of d (Durbin-Watson) is between dU and (4-dU) it means that there is no autocorrelation.
- 3) If the value of d (Durbin-Watson) lies between dL and dU or between (4-dU) and (4-dL) then it does not yield a definite conclusion

Table 6. Autocorrelation Test Results									
	Model Summary ^b								
Type	R	R Square	Adjusted R	Std. Error of	Durbin-				
Square the Estimate Watson									
1	.875a	.765	.761	2.251	1.791				
a. Predictors: (Constant), Millennial Leadership Style									
b. Depend	lent Variable	: Employee Lo	oyalty						

From the spss output above, it is known that the Durbin-Watson value of 1,791 is greater than the DU which is 1,637 and less than the 4-DU which is 2,363, so as the basis for decision-making in the Durbin Watson test above, it can be concluded that there is no auto correlation.

Heteroscedasticity Test

The heteroscedasticity test was carried out to find out whether in the regression model there was variance disparity from the residual from one observation to another. This inconsistency of residual variance can cause regression estimation to be inefficient and result in biased conclusions. According to Mintarti Indartini (2024), heteroscedasticity occurs when there is a correlation between the interference variable (*error term*) and the independent variable, which violates one of the important assumptions in classical linear regression. Therefore, graphical and statistical testing is needed to detect the presence of symptoms of heteroscedasticity.

In this study, heteroscedasticity testing was carried out using two methods, namely using scatterplot graphs and Glejser statistical tests.

Heteroskedastisitas Scatterplot Test

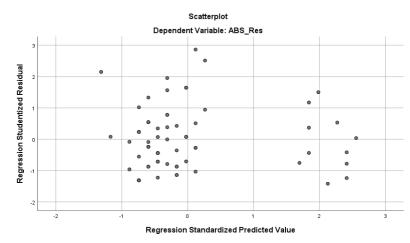


Figure 1. Heteroscedasticity Test Results

Based on the results of the scatterplot output above, it can be seen that the dots are spread out and do not form a clear pattern. Thus, it can be concluded that there is no heteroscedasticity problem.

Glejser Heteroscedasticity Test

Heterokedasticity test is a statistical method used to test whether there is a significant difference in variation (dispersion) between groups or sub-samples in a dataset. Heterokedasticity occurs when the variance (dispersion) of data is not constant across its entire range of values.

If the significance value (Sig.) is greater than 0.05, then the conclusion is that there are no symptoms of heteroscedasticity in the regression model. On the other hand, if the significance value (Sig.) is less than 0.05, then the conclusion is that there are symptoms of heteroscedasticity in the regression model.

Table 6. Heteroscedasticity Test Results

	1 401	c o. meterosce	dasticity 1 est	Ittsuits		
		Coef	ficientsa			
Туре		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	_	В	Std. Error	Beta		
1	(Constant)	3.737	1.758		2.126	.037
	Millennial Leadership Style	025	.022	134	-1.099	.276
a. Dep	pendent Variable: ABS Res					

Based on the spss output above, it is known that the significance value (Sig.) for all the above variables is more than 0.05, so the conclusion is that there are no symptoms of heteroscedasticity in the regression model.

Hypothesis Test Significance T Test

The significance T test is a statistical method used in simple linear regression analysis to test whether the regression coefficient of an independent variable has a significant influence on the dependent variable. In this study, the T test was used to test the influence of millennial (X) leadership style on worker loyalty (Y) directly.

The hypotheses tested in this study are as follows:

- 1) H₀: Millennial leadership style has no significant effect on employee loyalty
- 2) H₁: Millennial leadership style has a significant impact on employee loyalty

The test was carried out with a significance level (α) of 0.05. The degree of freedom (df) is calculated by the formula N-k-1, where N is the number of samples and k is the sum of independent variables. In this study, N=68 and k=1, so df = 66. Based on the distribution table t, the t-value of the table for the significance level of 5% (double-sided) with df = 66 is 1.997.

Table 7. Significance T Test Results

Coefficientsa								
Туре	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinea Statisti		
	В	Std. Error	Beta			Tolerance	VIF	
1 (Constant)	7.061	3.079		2.293	.025			
Millennial Leadership Style	.577	.039	.875	14.655	.000	1.000	1.000	

a. Dependent Variable: Employee Loyalty

The SPSS output results show that the t-value of the Millennial Leadership Style (X) tcalculated is 14,655. Next define t-Table. The distribution table t is searched at $\alpha/2 = 0.05 = 0.025$ with the free degree N-k-1 which is 68 - 1 - 1 = 66, then t-Table 1.997 is obtained. Because t-Count is larger than t-Table which is 14,655 > 1,997 and significance value (Sig.) 0.000 < 0.05, H₀ is rejected and H₁ is accepted, which means that there is a significant influence between millennial leadership styles on worker loyalty.

Determination Coefficient Test (R²)

The determination coefficient test is used to find out how much influence independent variables have on dependent variables in a regression model. This coefficient of determination is usually expressed in the form of a percentage and calculated using the formula:

 $Kd=r2\times100\%$

Where:

Kd is the Coefficient of Determination r is the Correlation Coefficient

The coefficient of determination (R^2) reflects how well the independent variables in the model are able to explain the variations that occur in the dependent variables. According to previous research by , the R^2 value ranges from 0 to 1, with the following interpretation:(Fatmawati, 2020)(Ramli, 2024)

- 1) If $R^2 = 0$, then the model is not able to explain the variation that occurs in the dependent variable at all.
- 2) If $R^2 = 1$, then all variations of the dependent variable can be perfectly explained by the model. If R^2 is between 0 and 1, then it indicates the proportion of data variations that the model can explain. For example, $R^2 = 0.85$ means that the model is able to explain 85% of the variation in the data.

Table 8. Determination Coefficient Test Results

	Table 6: Determination Coefficient Test Results								
Model Summary ^b									
Type	R	R Square	Adjusted R	Std. Error of	Durbin-				
Square the Estimate Watson									
1	.875a	.765	.761	2.251	1.791				
a. Predictors: (Constant), Millennial Leadership Style									
h Denen	dent Variab	le: Employee	Lovalty						

From the spss output table above, the Determination Coefficient Test Summary was obtained a determination coefficient (R square) of 0.765 or $0.765 \times 100 = 76.5\%$ which has the understanding that the influence of the independent variable (X) on the bound variable

(Y) is 76.5% and the rest is influenced by other factors that the researcher did not research.

Central Tendency Test and Data Variation Central Tendency Test

According to the theory, the analysis of central tendencies includes mean values (mean), median, and mode. Meanwhile, the analysis of value variation is shown by standard deviation as an indicator of the spread of value from the midpoint.(Dr. Karimuddin Abdullah, 2021)

Based on the results of the SPSS descriptive test:

- 1) Millennial Leadership Style has an average score of 77.84 with a standard deviation of 6.98.
- 2) Worker Loyalty has an average score of 52.00 with a standard deviation of 4.61.

Standard values of deviation that are smaller than the mean value indicate that the data has an even and stable spread. This is in accordance with the theory of central tendency and value variation, in which the distribution of values does not deviate extremely from the mean.

Subvariable Correlation to Worker Loyalty

Variable X in this study consists of 6 aspects of leadership ability:

- 1) Communication Skills (X1–X3)
- 2) Motivational Ability (X4–X6)
- 3) Decision-Making (X7–X9)
- 4) Subordinate Control Ability (x10–x12)
- 5) Responsible (x13–x15)
- 6) Ability to Control Emotions (x16–x18)

The results of Pearson's correlation test on the Y variable (Worker Loyalty) showed that all aspects had a significant and positive relationship, with the average correlation value as follows:

- 1) Communication Ability = 0.59 (High)
- 2) Motivational Ability = 0.59 (High)
- 3) Decision-making = 0.66 (Very High)
- 4) Subordinate Control Ability = 0.63 (Height)
- 5) Responsible = 0.60 (High)
- 6) Ability to control emotions = 0.66 (very high)

Thus, all aspects of millennial leadership measured have a positive influence on worker loyalty. Aspects of decision-making and the ability to control emotions are dominant factors that should be prioritized in leadership development to increase employee loyalty.

Table 9. Summary of Subvariable Correlation to Worker Loyalty

Ability Aspect	Average Correlation to Y	Correlation Category				
Communication skills	0.59	High				
Motivational ability	0.59	High				
Decision-making	0.66	Very High				
Control	0.63	High				
Responsible	0.60	High				
Ability to control emotions	0.66	Very High				

Table 10. Assessment Data for Each Variable

Descriptive Statistics						
	N	Minimum	Maximum	Mean	Hours of deviation	
X.1	68	3	5	4.29	0.624	
X.2	68	3	5	4.28	0.619	
X.3	68	3	5	4.41	0.525	

Descriptive Statistics						
X.4	68	3	5	4.21	0.636	
X.5	68	3	5	4.32	0.657	
X.6	68	3	5	4.34	0.589	
X.7	68	3	5	4.28	0.569	
X.8	68	3	5	4.38	0.624	
X.9	68	3	5	4.22	0.619	
X.10	68	3	5	4.37	0.667	
X.11	68	3	5	4.31	0.580	
X.12	68	3	5	4.35	0.664	
X.13	68	3	5	4.29	0.624	
X.14	68	3	5	4.40	0.626	
X.15	68	3	5	4.38	0.599	
X.16	68	3	5	4.22	0.643	
X.17	68	3	5	4.46	0.609	
X.18	68	3	5	4.32	0.633	
Valid N (listwise)	68					

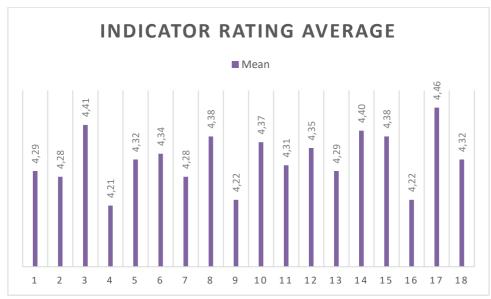


Figure 4. Indicator Rating Average Chart

From the mean value above, it was found that the indicator of the ability to control emotions got the highest score, so that millennial leaders were able to control their emotions well, and the indicator of motivational ability got the lowest score.

The Influence of Leadership Style on Employee Loyalty

Based on the results of the research conducted through the distribution of questionnaires to 68 respondents in the production operations division of PT XYZ, it is known that the millennial leadership style has a significant influence on worker loyalty. This is evidenced by the correlation coefficient (R) value of 0.875 and the R Square value of 0.765, which means that 76.5% of the variation in worker loyalty can be explained by millennial leadership styles, while the remaining 23.5% are influenced by other variables outside of this study model.

Furthermore, the results of the significance T-test showed a t-Count value of 14.655, much greater than the t-Table of 1.997, with a significance value of 0.000 (<0.05). These findings indicate that the alternative hypothesis (H₁) is accepted and the zero (H₀) hypothesis is rejected, thus strongly supporting a significant relationship between millennial leadership

styles and worker loyalty. This statistical evidence reinforces the conclusion that the influence is not a coincidence, but a valid and reliable correlation.

Substantially, the millennial leadership style applied at PT XYZ is characterized by open communication, collaboration, high empathy, and employee empowerment. These characteristics create a supportive and participatory work environment, which in turn encourages the formation of strong emotional bonds between leaders and subordinates. Thus, leadership style is not just an administrative act, but a social relationship that has a deep psychological and emotional dimension, which contributes significantly to the loyalty of workers in PT XYZ's production operations division.

Analysis of Indicators of Leadership Style and Employee Loyalty Millennial Leadership Style Indicators

The millennial leadership style in this study was measured through six main indicators: communication skills, motivational skills, decision-making, subordinate control skills, responsibility, and emotional control. Each indicator reflects a crucial element in shaping leadership patterns that are relevant to the characteristics of today's working generation.

From the results of the correlation analysis, it is known that the two indicators with the strongest relationship to worker loyalty are decision-making and emotional control, each with a correlation value of r=0.66. This correlation is classified as very high indicates that leaders who are able to make the right decisions, as well as are able to control emotions in complex work situations, are more appreciated and trusted by their subordinates. This is in line with the needs of millennial and Z generation workers who value emotional stability and certainty in the work process.

In addition, from the descriptive analysis, it was found that the X17 indicator, namely the ability to control emotions in difficult situations, had the highest average value of 4.46. This is followed by the X3 (open communication) and X14 (responsibility for teamwork results) indicators, which have an average of 4.41 and 4.40, respectively. These three indicators consistently show that workers highly value the interpersonal qualities of their leaders, especially in the aspects of communication, responsibility, and emotional stability.

Employee Loyalty Indicator

Employee loyalty is measured through five indicators, namely loyalty to the company, commitment to tasks, maintaining the company's image, desire to survive, and work initiative. The descriptive results showed that the Y3 indicator, namely "long-term desire to stay in the company", occupied the highest position with an average of 4.53, followed by the Y1 indicator "pride in working at PT XYZ" with an average of 4.46. This high score indicates that worker loyalty is not only functional (staying on the job), but also emotional (proud to be part of the organization).

This data illustrates that the leadership style applied is not only able to maintain the continuity of the working relationship, but also forms a deep psychological bond, which is an important foundation in creating long-term loyalty.

Suitability of Findings with Theory and Organizational Context

The findings of this study have a very strong correlation with the theories that have been outlined in the conceptual framework of Chapter 2. In particular, the millennial leadership theory put forward by and , which emphasizes the importance of open communication, flexibility, empathy, and the active participation of subordinates. In the context of modern organizations such as PT XYZ which are dominated by workers from millennials and Z generations, an adaptive, humanist, and collaborative leadership style has proven to be more effective in forming loyalty.(Carolyn Easton, 2023)(Puspa Dewi, 2022)

Furthermore, the theory of affective loyalty as described by Allen and Meyer in , provides an explanation that loyalty is formed from an employee's emotional attachment to the organization. This attachment arises not because of the compensatory factor alone, but because of meaningful interpersonal relationships, a sense of appreciation, and positive work experiences. The findings of this study support this assumption, where a supportive and communicative leadership style is a key factor in forming strong loyalty.(Ramli, 2024)

In the field reality, workers who are led in an open and empathetic style show higher loyalty, as demonstrated by respondents 1, 4, and 5. In contrast, workers who feel burdened and less emotionally supported, such as AC respondents, show a tendency to decline in loyalty. This emphasizes that the quality of social relations between superiors and subordinates is a variable that determines loyalty that cannot be ignored.

Strategic Impact on Organizations

The strategic impact of millennial leadership styles on employee loyalty includes various aspects that are both direct and long-term. One of the main impacts that need to be highlighted is related to turnover intention or intention to leave the company. Based on *presurvey* data, as many as 47.1% of workers stated that they had considered resigning due to dissatisfaction with their superior's leadership style. This is a significant number and reflects the potential risks of human resource retention if not handled appropriately.

However, the data from the study shows that an effective millennial leadership style is able to suppress these intentions. When workers feel led by a supervisor who is communicative, emotionally stable, and able to make decisions fairly, loyalty increases and the desire to leave the company tends to decrease. This means that the implementation of the right leadership style not only increases loyalty, but also provides a protective effect against labor fluctuations.

Another impact is increased productivity and team effectiveness. Loyal workers are more likely to show initiative, be responsible for the results of work, and be more open to collaborating across functions. In addition, emotionally formed loyalty creates a more supportive and progress-oriented work culture together.

In the long run, a leadership style that encourages loyalty also contributes to strengthening the organization's culture and the company's reputation as a valued workplace. This is a competitive advantage in attracting and retaining the best talent in the midst of increasingly complex labor market dynamics.

Improvements and Stakeholder Roles

The analytical approach that combines statistical data with empirical narratives from *pre-surveys* and interviews provides a deeper understanding of worker loyalty within PT XYZ. For example, AB respondents expressed satisfaction with their superiors' leadership style, but still emphasized the need for increased openness in decision-making. Meanwhile, AC respondents reflected low loyalty due to heavy workload and lack of empathy from leaders. These findings underscore that loyalty is not only determined by formal policies or incentives, but is strongly influenced by the quality of interpersonal interactions, sense of appreciation, and emotional recognition from superiors.

These findings are in line with affective loyalty theory that emphasizes the importance of emotional attachment as a foundation for long-term commitment. This means that an adaptive, empathetic, and communicative leadership style has a direct impact on increasing loyalty while reducing the intention to change jobs.

As a next step, companies need to design leadership development programs that emphasize *coaching skills*, interpersonal communication, and the application of participatory principles in management. This program must involve collaboration between *the Human*

Capital unit, operational managers, and strategic ranks, so that there is a comprehensive transformation of leadership culture in the work environment. With the involvement of all stakeholders, PT XYZ can build an organizational ecosystem that not only encourages loyalty, but also long-term sustainability and competitiveness.

Based on empirical findings and indicator analysis, there are several strategic steps that PT XYZ needs to take to strengthen worker loyalty through strengthening an effective millennial leadership style:

- 1) Designing leadership training and development programs that emphasize two-way communication skills, empathy, participatory decision-making, and emotional control. This program should be sustainable and adjusted to the dynamics of the generation of workers.
- 2) Implement a leadership evaluation system on a regular basis so that there is objective feedback on the leadership style in the field. One method that can be used is 360-degree feedback, involving assessments from subordinates, peers, and direct superiors. This evaluation is the basis for coaching and promoting leaders in the organization.
- 3) Strengthen the merit-based reward system, which is an award given based on the real contribution and added value of workers. This system encourages fairness and motivation at work which ultimately strengthens loyalty.

All of these plans require cross-functional involvement, including:

- 1) Human *Capital* (HC) Division: responsible for developing training programs, reward systems, and leadership evaluations.
- 2) Production Operations Division Manager: as a driver of the direct application of leadership style in the field.
- 3) Top Management: providing strategic support, budget allocation, and strengthening work culture transformation policies.
- 4) Workers: as subjects as well as partners in leadership style updates, particularly in providing feedback and active participation.

Solid collaboration between stakeholders is an important foundation in realizing effective and contextual millennial leadership, which ultimately has an impact on improving employee loyalty across the board and sustainably.

CONCLUSION

This study concludes that the millennial leadership style has a significant and strong influence on worker loyalty in the Production Operations Division of PT XYZ, as evidenced by the regression analysis showing that 76.5% of the variation in loyalty can be explained by leadership factors, particularly decision-making, emotional control, and empathetic communication, which foster trust, pride, and the desire to remain in the company. Conversely, the absence of supportive and empathetic leadership triggers dissatisfaction and turnover intentions, highlighting that the success of organizational performance depends heavily on adaptive, inclusive, and people-oriented leadership practices. These findings address the research objective by proving the central role of millennial leadership in shaping loyalty, while contributing to the broader discourse by emphasizing the need for leadership development programs that integrate soft skills and participatory communication. For future research, this study suggests expanding the scope to multiple divisions or industries, incorporating mediating and moderating variables such as job satisfaction, work-life balance, and communication style, and employing mixed methods approaches to capture deeper psychological and social dimensions of employee loyalty, thereby enriching theoretical insights and practical strategies for sustainable human resource management.

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