

The Effect of Tenors, Installments, Loans on Arrears, and Moderating Variables

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Article Info	Abstract
<p>Keywords: Arrears; Installment; Loan; Non_Performing_Loan; Tenors.</p>	<p>The research objective is to determine the effect of tenors, installments, and loans on arrears and moderating variables. This type of quantitative research. Secondary data type. The research population for customer loan data for 2017-2022 and customer loans maturing in 2022-2027 are 527 customers as a sample. The analytical method uses path analysis with the help of SmartPLS 3. The results of the study: (1) Tenors have a negative and significant effect on Arrears; (2) Tenors have a negative and significant effect on Installment; (3) Loans have a positive and significant effect on Tenors; (4) Loans have a positive and significant effect on Arrears; (5) Loan has a positive and significant effect on Installment; (6) Installment has a negative and significant effect on Arrears; (7) Loans are not significant to Arrears moderated by Installment; and (8) Tenors have a negative and significant effect on Arrears moderated by Installment. The research findings provide empirical evidence that the determinants of customer arrears that can have an impact on arrears are tenors, loans, and installments. The implication of the research results is the discovery of factors that need to be considered by the company in providing loans to customers by carefully considering the alignment between loans to tenors, then tenors to installments so that the determination is not burdensome to customers so that arrears are smaller and can increase company profitability. Recommendations for further research: (1) Conduct data analysis on consumptive and productive loans; (2) Develop variables: Remaining loan principal, Arrears of fines, and Interest arrears.</p>
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1. Introduction

Bank and non-bank financial institutions grow in line with the needs of the community, both the types of services offered and their business units. This is, of course, due to the increasingly complex needs of society, including primary, secondary, and tertiary needs. Meanwhile, the ability to meet all of these needs is limited, so people apply for credit at banks or non-bank financial institutions (Astuti et al., 2022). Therefore, the position of financial institutions is quite strategic in channeling productive and consumptive loans. In general, lending is the main activity of financial institutions (Budi & Wirajaya, 2018; Harahap, 2022; Setyawan & Yuliarti, 2019; Widodo et al., 2022). However, along with the high public interest in credit, the potential for bad credit has also increased. Bad credit is a condition that is quite feared by every financial institution because it can threaten the profitability of companies providing credit services (Dini et al., 2013; Leccadito et al., 2015; Marantika & Sampurno, 2013; Purbowati & Hendrawan, 2018; Setyawan & Yuliarti, 2019; Widodo et al., 2022).

The loan disbursement process, which starts from the initial transaction to repayment, does not all run as smoothly as expected (Asih & Atmadja, 2022; Budi & Wirajaya, 2018; Purbowati & Hendrawan, 2018; Setyawan & Yuliarti, 2019). This is due to many factors, both the

internal control factors of the financial services company itself and factors on the part of the customer, and unexpected factors such as natural or non-natural disasters resulting in bad credit (Widodo et al., 2022).

According to research results, Utami & Dewi (2021) states that the term of the loan has a negative and significant effect on bad credit. Likewise, research results (Setyawan & Yuliarti, 2019) state that the credit period has a negative effect on bad credit. This is because the longer a credit must be repaid, the greater the space the customer has to manage it into income that can be used to pay his credit obligations. Research results from Setyawan & Yuliarti (2019) and Utami & Dewi (2021) are contrary to research results from Astuti et al. (2022), Harahap (2022), and Saroh et al. (2019). Research results from Harahap (2022) show that the term of the loan has a positive and significant effect on bad credit. As for the research results, Saroh et al. (2019) find that the credit period has a positive and significant effect on the decision to repay credit. Meanwhile, the research results from Astuti et al. (2022) show that the loan period (tenors) did not affect bad credit. According to Purbowati & Hendrawan (2018), the period given to customers to repay their loans is an internal factor that can cause bad credit. Therefore, HR (Human Resources) is needed to conduct credit analysis on customers so that the tenor does not affect the occurrence of bad credit.

According to research results from Asih & Atmadja (2022), the size of the loan has a negative and significant effect on the smooth rate of credit repayment, which means that the larger the loan received by the customer, the less likely arrears will occur. According to research results from Pertiwi et al., (2018), the loan amount has a positive and significant effect on credit repayments. Likewise, research results from Budi & Wirajaya (2018) show that the bigger the loan, the better the credit return. Meanwhile, research results from Marantika & Sampurno (2013) show that the more the debtor's loan amount, the less smooth the debtor is in returning credit. According to Marantika & Sampurno (2013), not all of the loans received by debtors are probably used for productive activities. According to Dini et al. (2013), the amount of the installment value that must be paid by the customer every month can affect the occurrence of bad credit. Of course, some factors affect installments, and installments can also affect other factors. One of them is arrears.

Based on the research results above, there are differences in research results between the factors that influence bad credit. The variables that affect bad credit are the subject of varying research findings. The dissimilarities observed in the aforementioned research findings can be attributed to variations in Standard Operating Procedures (SOPs) and the types of financial services products offered to individual clients. A review of the research object, the kind of research data, and the research variables tested can be used to determine this. However, it can be concluded that some factors/variables are quite popular, namely tenors, loans, and installments. In addition to these variables, of course, other variables have not been studied by previous researchers.

In this research conducted at PT. PAA, which carries out its operations in the Ambon City Area, Maluku Province, Indonesia. The company is engaged in non-bank financial services with mortgage and non-pawn loan products and services. The credit score level at PT. PAA is based on the provisions of the OJK (Financial Services Authority), which is on current collectibility, which is in the range 1-90. However, in this study, it was adjusted to 31-90 because 1-30 was considered too short, which made it less feasible to be research material. Therefore, the range adjusted for research needs to be 31-90. So that the data obtained from PT. PAAs in the range 1-30 have been eliminated. The following in Table 1 shows the percentage of customers in arrears, namely as follows:

Table 1. Percentage of Customers in Arrears

Number of Days in Arrears	Collectivity	Number of Customers	Percentage
31-90	Under Special Attention	487	92%
91-120	Not that Smooth	13	2%
121-180	Questionable Credit	15	3%
>180	Bad Credit	12	2%
Total		527	100%

Source: Processed Data, 2023.

Based on Table 1, it can be seen that (a) 92% or 487 customers are in arrears from 31 days to 90 days; (b) Customers' arrears ranging from 91 days to 120 days by 2% or 13 customers; (c) Customer arrears ranging from 121 days to 180 days as much as 3% or 15 customers and; (d) Customers in arrears for more than 180 days are 2% or 12 customers. Meanwhile, in Table 2, the percentage of loan amount disbursed can be seen.

Table 2. Percentage of Loan Amount Disbursed

Number of Days in Arrears	Collectivity	Loan Amount Disbursed (IDR)	Percentage
31-90	Under Special Attention	7.414.495	86%
91-120	Not that Smooth	466.833	5%
121-180	Questionable Credit	467.529	5%
>180	Bad Credit	300.853	3%
Total		8.649.710	100%

(000)

Source: Processed Data, 2023.

Based on Table 2, it can be seen that (a) customer arrears ranging from 31 days to 90 days are 86% or 7,414,495; (b) Customers' arrears ranging from 91 days to 120 days of 5% or 466,833; (c) Customer arrears ranging from 121 days to 180 days of 5% or 467,529 dan; (d) Customers' arrears starting at 180 days are 3% or 300,853. Based on the results of data analysis in Table 1 and Table 2, it can be seen that under special attention, there is a number of customers 487 or 92% with a loan amount disbursed (IDR) 7,414,494,781 or 86%. Meanwhile, including bad credit, there is a number of customers of 12 or only 2%, with a loan amount disbursed (IDR) of 300,853,000 or 3%. Even though it is only 3%, it poses a threat of hundreds of millions of rupiah in losses for the company. In Table 3, you can see the tenor of customer objectives.

Table 3. The Tenor of Customer Arrears

Number of Days in Arrears	Collectivity	Tenors	Number of Customers
31-90	Under Special Attention	3	4
		6	55
		12	237
		13	1
		14	1
		17	1
		18	47
		20	2
		22	2
		23	4
		24	55
		27	1
29	1		

Number of Days in Arrears	Collectivity	Tenors	Number of Customers
		31	1
		32	1
		34	1
		36	50
		48	12
		60	11
Number of Under Special Attention			487
91-120	Not that Smooth	12	2
		18	1
		24	2
		26	1
		28	1
		30	1
		36	2
		41	1
		44	1
		48	1
Number of Not that Smooth			13
121-180	Questionable Credit	12	2
		21	2
		23	1
		24	1
		25	2
		28	1
		29	1
		36	3
		44	2
Number of Questionable Credit			15
>180	Bad Credit	18	1
		21	2
		27	1
		29	1
		30	2
		36	1
		42	1
		48	1
		60	2
Number of Bad Credit			12
Total			527

Source: Processed Data, 2023.

Based on Table 3, it can be seen that each collectivity has the same tenors. However, it still experiences arrears as in (a) Under special attention, and there are similarities in tenors with not that smooth and questionable credit, namely tenors 12; (b) Under special attention, there are similarities in tenors with not that smooth and bad credit, namely tenors 18 and 48; (c) Under special attention there are similarities in tenors with not that smooth, questionable credit, and bad credit, namely tenors 36.

Based on the data in Table 1, Table 2, and Table 3, further data analysis is needed so that research is needed to find out the factors that influence the occurrence of arrears so that they can become material for studying accounting policies, both for academic purposes and scientific development as well as for company management.

There are several factors that make this research novelty when compared to a number of previous studies (Asih & Atmadja, 2022; Astuti et al., 2022; Budi & Wirajaya, 2018; Dini et al., 2013; Harahap, 2022; Marantika & Sampurno, 2013; Purbowati & Hendrawan, 2018; Saroh et al., 2019; Setyawan & Yuliarti, 2019; Utami & Dewi, 2021), that is: (1) Research from Dini et al., (2013) using the QUEST method while in this study using a path test with the help of SmartPLS 3 software; (2) Research from Budi & Wirajaya (2018), Dini et al. (2013), and Setyawan & Yuliarti (2019) which uses customer credit status data and customer demographic data while in this study did not use customer demographic data; (3) Research from Harahap (2022) uses data on interest rates and loan guarantees while in this study it focuses more on analyzing the relationship of factors that directly affect arrears; (4) Research from Asih & Atmadja (2022), Astuti et al. (2022), Budi & Wirajaya (2018), Marantika & Sampurno (2013), Saroh et al. (2019), Setyawan & Yuliarti, (2019), Utami & Dewi (2021) using primary data while in this study using secondary data; (5) Research from Purbowati & Hendrawan (2018) carried out with a qualitative descriptive approach while in this study with a quantitative approach; (6) Research from Asih & Atmadja (2022) carried out on the smoothness of credit repayments during the Covid-19 pandemic while this research used loan contract data in 2017-2022 and loan maturity data in 2022-2027; (7) This research conducted 8 (eight) times to test the relationship of each variable which includes the following variables: Tenors; loans; Installments and; Arrears. Of the eight tests, five were development tests that had never been tested in previous research. Thus, this research is the first time testing has been carried out. The five tests are (a) The effect of tenors on installments; (b) The effect of loans on tenors; (c) The effect of the loan on the installment; (d) The effect of loans on arrears moderated by installments; and (e) The effect of tenors on installment-moderated arrears.

Substantial factors that are important reasons for this research are: (1) The amount of loans disbursed to customers is more than 8 (eight) billion rupiahs which are divided into 4 (four) collectivity of customers in arrears, so research is needed to find out the factors which affect each other in arrears: (2) There are differences in research methods and types of research data with a number of previous studies so that this research which uses all secondary data with path analysis is important to carry out.

The purpose of this study is to identify the variables that affect arrears and other variables that affect each other, such as (1) The effect of tenors on arrears, (2) The effect of tenors on installment, (3) The effect of loans on tenors, (4) The effect of loans on arrears, (5) The effect of loan on installment, (6) The effect of installment on arrears, (7) The effect of loans on arrears moderated by installment, and (8) The effect of tenors on arrears moderated by installment.

Tenors

The tenors are the loan repayment period agreed upon by the customer with the lender whose indicator is the number of months (period) of credit (Nurhapsari & Apriani, 2021; Sarimuddin et al., 2020; Utami & Dewi, 2021; Wahyuni & Maulidia, 2020).

Loan

The loan is the number of loans received by customers, of which payments will be made in stages in the following months, the indicator of which is the rupiah value of the principal loan/mortgage value (Nurhapsari & Apriani, 2021; Sarimuddin et al., 2020; Utami & Dewi, 2021; Wahyuni & Maulidia, 2020).

Installment

The installment is the amount of installments or installments or credit repayments paid by the customer every month until it is paid off, the indicator of which is the rupiah value paid by the customer every month (Nurhapsari & Apriani, 2021; Prasetya et al., 2020; Sarimuddin et al., 2020; Utami & Dewi, 2021; Wahyuni & Maulidia, 2020).

Arrears

Arrears are the number of days that have passed from what should be based on what is written in the loan agreement, the indicator of which is the number of days in arrears by the customer (Nurhapsari & Apriani, 2021; Sarimuddin et al., 2020; Utami & Dewi, 2021; Wahyuni & Maulidia, 2020; Yasa, 2022).

Hypothesis Development

The Effect of Tenors on Arrears

Tenors are the period of time for settlement of customer credit. According to the findings, Utami & Dewi (2021) show that the term of the loan has a negative and significant effect on bad credit. The longer the loan period, the lower the bad credit. Likewise, research results from Setyawan & Yuliarti (2019) show that the credit period has a negative effect on bad credit. This is because the longer a credit must be repaid, the greater the space the customer has to manage it into income that can be used to pay his credit obligations.

Research results from Setyawan & Yuliarti (2019) and Utami & Dewi (2021) are contrary to research results from Astuti et al. (2022), Harahap (2022), and Saroh et al. (2019). Research result (Harahap, 2022) states that the term of the loan has a positive and significant effect on bad credit. This is because the longer the credit period, the longer the interest and installment payments will take, thus making customers bored and lazy to pay installments, which in turn results in bad credit. As for the research results, Saroh et al. (2019) state that the credit period has a positive and significant effect on the decision to repay credit. Therefore, the longer the loan term, the greater the bad credit. In comparison, the research results from Astuti et al. (2022) stated that the loan period (tenors) had no effect on bad credit.

According to Purbowati & Hendrawan (2018), the time period given to customers to repay their loans is an internal factor that can cause bad credit. Therefore, HR (Human Resources) is needed to conduct credit analysis on customers so that the tenor does not affect the occurrence of bad loans. Of course, tenors do not stand alone, but there are factors that can influence the determination of tenors for customers based on the results of analysis by the credit team at financial services companies. Of course, there are factors that affect tenors, and tenors can also affect other factors. One of them is customer arrears. The longer tenors can trigger arrears for customers or vice versa. Long tenors can prevent customer arrears from occurring because the tenors themselves are influenced by other factors. Based on the analysis of the characteristics of the object of this study, this study's hypothesis is as follows:

H₁ = Tenors have a negative and significant effect on Arrears.

The Effect of Tenors on Installment

Tenors are the period of time for settlement of customer credit. Of course, tenors do not stand alone, but there are factors that can influence the determination of tenors for customers based on the results of analysis by the credit team at financial services companies. Of course, there are factors that affect tenors, and tenors can also affect other factors. One of them is installment. The installment value is determined according to the results of an analysis by the credit/loan/pledge company. This means the longer the tenor, the smaller the installment value that must be paid by the debtor or customer. Based on the analysis of the characteristics of the object of this study, this study's hypothesis is as follows:

H₂ = Tenors have a negative and significant effect on Installment.

The Effect of Loans on Tenors

Loans, which are the principal value of the loan or the principal debt of the customer, of course, do not stand alone. Instead, there are factors that can influence the determination of loans for customers based on the results of analysis by the credit team at financial services companies. Of course, there are factors that affect loans, and loans can also affect other factors. One of them is tenors. The tenor value is determined according to the results of the analysis by the lender/loan/pawn company. This means that the larger the loan, the longer the tenor is because, in general, the tenor is determined according to the size of the loan approved by the lender/creditor. Based on the analysis of the characteristics of the object of this study, this study's hypothesis is as follows:

H₃ = Loans have a positive and significant effect on Tenors.

The Effect of Loans on Arrears

A loan is the principal value of the loan or the customer's principal debt, which is the customer's total debt disbursed at the beginning of the contract/transaction. According to Asih & Atmadja (2022), there is a negative and substantial relationship between loan size and the smooth level of credit repayment; that is, the larger the loan amount that a customer receives, the lower the likelihood that they will fall behind on their payments. This is due to the customer's monthly income obtained from the results of the customer's business with financing capital provided by the bank or customer income from other businesses that can support the customer to be able to return financing dependents in a timely manner. The greater the debtor's income, the greater the level of smoothness of credit repayments. The loan amount has a significant positive effect on the smooth return of credit.

The large number of loans received by the debtor will affect the debtor's productivity because, with a large loan amount, the debtor has the opportunity to develop his business. This increase in productivity will increase the debtor's income and will improve the smooth return of credit. As for according to Pertiwi et al. (2018), the loan amount has a positive and significant effect on credit repayments. This means that the greater the loan amount received by the customer, the smaller the arrears. Likewise, research results from Budi & Wirajaya (2018) show that the bigger the loan, the better the credit return. Meanwhile, research results from Marantika & Sampurno (2013) state that the more the debtor's loan amount, the less smooth the debtor is in returning credit. According to Marantika & Sampurno (2013), not all of the loans received by debtors may be used for productive activities. Many debtors misuse the credit they receive for consumptive activities, for example, used to pay for children's education, medical treatment, home renovations, and so on. So, no matter how large the amount of the loan received by the debtor, it does not affect the smooth return of credit, especially if the credit is misused for unproductive activities. This can be seen from the fact that large loans will give customers a large obligation to pay off their debts.

Loans, which are the principal value of the loan or the principal debt of the customer, of course, do not stand alone. Instead, there are factors that can influence the determination of loans for customers based on the results of analysis by the credit team at financial services companies. Of course, there are factors that affect loans, and loans can also affect other factors. One of them is arrears. The loan value is determined according to the results of the analysis by the credit/loan/pawning company. This aims to prevent arrears. Therefore, the bigger the loan, the greater the potential for arrears to occur. Based on the analysis of the characteristics of the object of this study, this study's hypothesis is as follows:

H₄ = Loans have a positive and significant effect on Arrears.

The Effect of Loan on Installment

Loans, which are the principal value of the loan or the principal debt of the customer, of course, do not stand alone. Instead, there are factors that can influence the determination of loans for customers based on the results of analysis by the credit team at financial services companies. Of course, there are factors that affect loans, and loans can also affect other factors. One of them is installment. The loan value is determined according to the results of the analysis by the credit/loan/pawning company. This is intended so that the installments are determined according to the capabilities of the debtor/customer. Therefore, the bigger the loan, the bigger the installment. Based on the analysis of the characteristics of the object of this study, this study's hypothesis is as follows:

H₅ = Loan has a positive and significant effect on Installment.

The Effect of Installment on Arrears

Installments are installments that must be paid by the customer every month according to the agreement of both parties. Of course, this does not stand alone, but there are factors that can influence the determination of installments for customers based on the results of an analysis by the credit team at a financial services company. According to Dini et al. (2013), the amount of the installment value that must be paid by the customer every month can affect the occurrence of bad credit. Of course, there are factors that affect installments, and installments can also affect other factors. One of them is arrears. The installment value is determined according to the results of an analysis by the credit/loan/pledge company with the aim that there are no arrears. This is intended so that the installments are determined according to the capabilities of the debtor/customer. The size of the installment value will not give rise to the potential for arrears if the determination is correct and the economic condition of the debtor/customer is under normal conditions. However, the amount of the installment can contribute to the less likely occurrence of arrears. Based on the analysis of the characteristics of the object of this study, this study's hypothesis is as follows:

H₆ = Installment has a negative and significant effect on Arrears.

The Effect of Loans on Arrears Moderated by Installment

Loans, which are the principal value of the loan or the principal debt of the customer, of course, do not stand alone. Instead, there are factors that can influence the determination of loans for customers based on the results of analysis by the credit team at financial services companies. Of course, there are factors that affect loans, and loans can also affect other factors, such as arrears and installment factors. The loan value is determined according to the results of the analysis by the credit/loan/pawning company. This is intended so that the installments are determined according to the capabilities of the debtor/customer. Therefore, the bigger the loan, the bigger the installment. However, if the loan, which is the principal of the loan, is related to the potential for arrears to occur, taking into account the size of the installment, there is certainly no relationship or influence. Because installments can be large or small depending on the loan, not depending on the potential for arrears to occur. Based on the analysis of the characteristics of the object of this study, this study's hypothesis is as follows:

H₇ = Loans are not significant to Arrears moderated by Installment.

The Effect of Tenors on Arrears Moderated by Installment

Tenors are the period of time for settlement of customer credit. Of course, tenors do not stand alone, but there are factors that can influence the determination of tenors for customers based on the results of analysis by the credit team at financial services companies. Of course, there are factors that affect tenors, and tenors can also affect other factors, such as arrears and installments. The longer tenors can trigger arrears for customers or vice versa. Long tenors can prevent customer arrears from occurring because the tenors themselves are influenced by other factors, such as installments. Installments that match the tenors will further reduce the potential for arrears to

occur. Based on the analysis of the characteristics of the object of this study, this study's hypothesis is as follows:

H₈ = Tenors have a negative and significant effect on Arrears moderated by Installment.

Framework of Thinking

The following is the framework of this research.

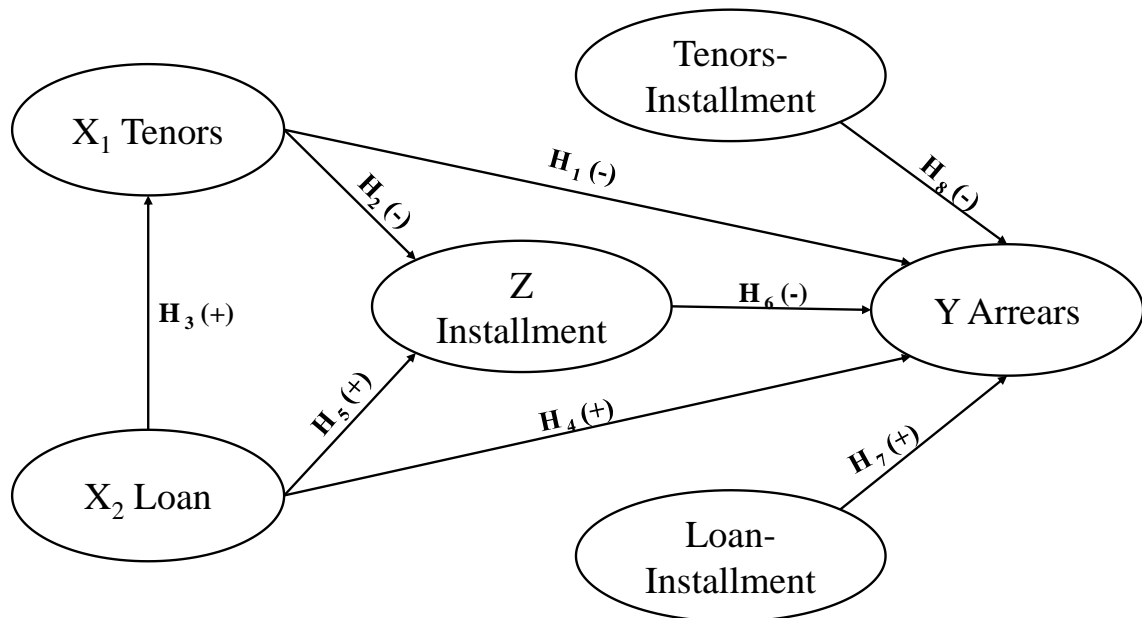


Figure 5. Framework of Mind
Source: Processed data, 2023.

2. Research Method

Research of this kind is quantitative. Secondary data is the kind of data used in this study. The secondary data used in this study is data on mortgage loans and non-pawn loans consisting of (1) Loan contract data in 2017-2022 and (2) Loan maturity data for 2022-2027. This research was conducted at PT. PAA, which carries out its operations in the Ambon City Area, Maluku Province, Indonesia. The company is engaged in non-bank financial services with mortgage and non-pawn loan products and services. The population in this study is customers who took loans in 2017-2022 and customers whose loans mature in 2022-2027. The method of determining the sample is purposive sampling based on customers with arrears of ≥ 31 calendar days to ≤ 340 calendar days, with a total of 527 customers as the research sample.

Variable Operational Definitions

Table 4 displays the operational definitions of the variables used in this study.

Table 4. Variable Operational Definition

Variable	Definition	Indicator	Scale	Source
Arrears (Y)	The number of days that have passed should be based on what is written in the loan agreement	Number of Days in Arrears of Customers	Ratio	(Nurhapsari & Apriani, 2021; Sarimuddin et al., 2020; Utami & Dewi, 2021; Wahyuni & Maulidia, 2020; Yasa, 2022)
Tenor (X1)	The loan repayment period has been agreed upon by the customer with the lender	Number of months (period) of credit	Ratio	(Nurhapsari & Apriani, 2021; Sarimuddin et al., 2020; Utami & Dewi, 2021; Wahyuni & Maulidia, 2020)
Loan (X2)	The amount of the loan received by the customer, of which the payment will be made in stages in the following months	Principal loan rupiah value/pledge value	Ratio	(Nurhapsari & Apriani, 2021; Sarimuddin et al., 2020; Utami & Dewi, 2021; Wahyuni & Maulidia, 2020)
Installment (Z)	The amount of installments or installments or credit repayments paid by the customer every month until it is paid off	Rupiah value paid by customers every month	Ratio	(Nurhapsari & Apriani, 2021; Prasetya et al., 2020; Sarimuddin et al., 2020; Utami & Dewi, 2021; Wahyuni & Maulidia, 2020)

Source: Processed data, 2023.

Data Analysis Method

With the aid of the software Smart Partial Least Square (SmartPLS) 3, this research data was quantitatively analyzed. In this study, the data testing phases were.

Data analysis begins with the use of an outer model for measurement. This stage comprises four tests and analyses, or steps: (1) Reliability and Validity Factor Analysis There are four validity tests: (1) Convergent, (2) Discriminant, and (3) Reliability. Following the completion of the first stage's steps, we will move on to the second phase, known as the structural model (also known as the inner model). This phase entails four testing steps, which are as follows: (1) R-Square Coefficient of Determination; (2) F-Square; (3) Goodness Of Fit (GoF) Test; and (4) Q-Square. Evaluation of the Relationship between Latent Variables is the third and last step. There is just one test left, the Hypothesis Test and the T-Statistics, at this point.

Research Model Framework

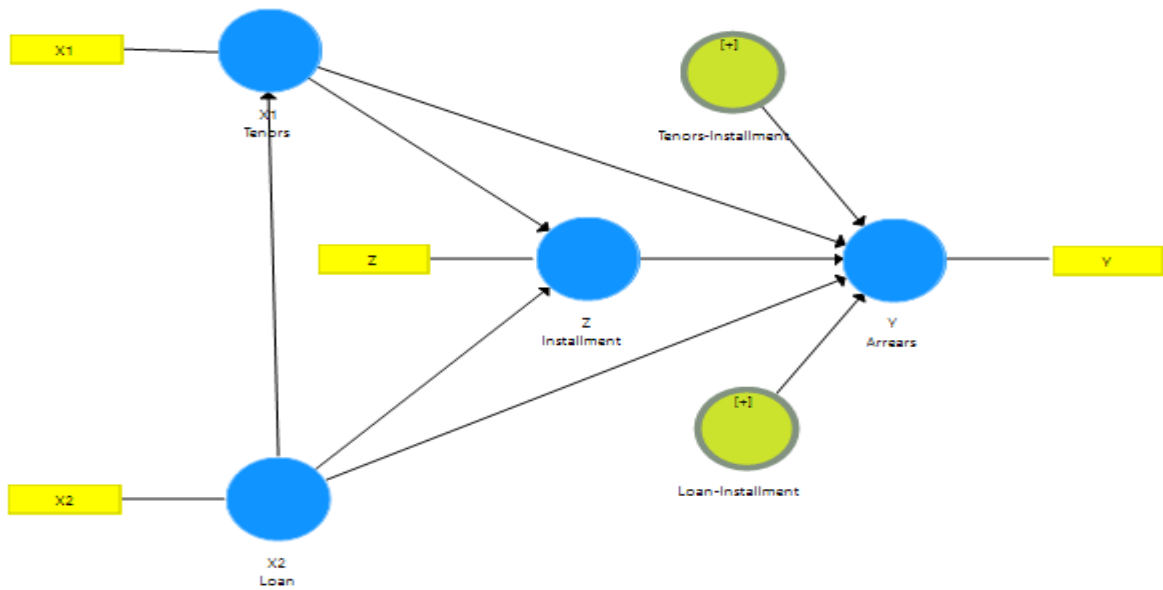


Figure 6. Research Model Framework
 Source: Data processed from SmartPLS 3, 2023.

3. Results and Discussions

Measurement Model (Outer Model)

Analysis of Reliability and Validity Factor

If the indicator correlation value is more than 0.70, it is considered valid. At the development stage, a loading scale of 0.50 to 0.60 is still appropriate, though from Ghozali & Latan, (2015). The outer model's loading factor value is displayed below in Figure 7.

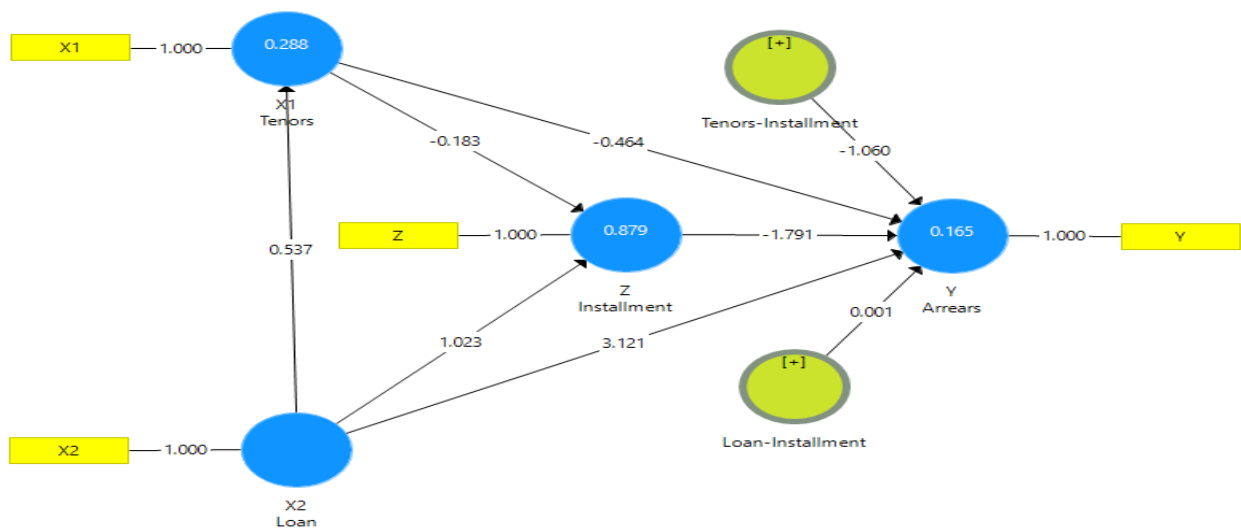


Figure 7. Outer Model Loading Factor
 Source: Data processed from SmartPLS 3, 2023.

The model in this study is known to meet the correlation value requirements, which are 1.00 or >0.70, respectively, based on the outer model loading factor value.

Convergent Validity Test

The loading factors for each indicator are listed in Table 5 as the following values.

Table 5. Outer Factor Model

	X1_ Tenors	Tenors- Installment	X2_ Loan	Loan- Installment	Y_ Arrears	Z_ Installment
X1	1.000					
X1_Tenors * Z_Installment		1.000				
X2			1.000			
X2_Loan * Z_Installment				1.000		
Y					1.000	
Z						1.000

Source: Data processed from SmartPLS 3, 2023.

Table 5 indicates that the loading factor yields a value greater than or equal to 0.50. As a result, all variables are deemed valid, indicating that the convergent validity test complies with the specifications for examining the research's data.

Discriminant Validity Test

All constructs in the discriminant validity test must have a value of >0.50 in order to satisfy the criteria and be considered valid (Ghozali & Latan, 2015). The constructs included in this research model have an AVE value of >0.50 , as Table 6 illustrates.

Table 6. Average Variance Extracted (AVE)

	Average Variance Extracted (AVE)
X1_Tenors	1.000
X2_Loan	1.000
Y_Arrears	1.000
Z_Installment	1.000
Loan-Installment	1.000
Tenors-Installment	1.000

Source: Data processed from SmartPLS 3, 2023.

Every tool used to measure the indicators in this research is reliable.

Reliability Test

Cronbach's alpha must be greater than 0.7, and composite reliability must be met for a dependable performance (Ghozali & Latan, 2015). Table 7 displays the findings of this study's testing of trustworthy data, which are as follows:

Table 7. Reliability Test Results

	Cronbach's Alpha	Composite Reliability
X1_Tenors	1.000	1.000
X2_Loan	1.000	1.000
Y_Arrears	1.000	1.000
Z_Installment	1.000	1.000
Loan-Installment	1.000	1.000
Tenors-Installment	1.000	1.000

Source: Data processed from SmartPLS 3, 2023.

Every variable in this study is highly reliable for every construct or piece of research data, as indicated by the test results in Table 7. In order for all constructs to pass the reliability test, it also implies that they are stable and consistent.

Structural Model (Inner Model)

In order to perform the structural model (inner model), the values of the R-, F-, GOF, and Q-squares are examined.

R-Square Coefficient of Determination

In order to justify the model's effectiveness in expressing the dependent variable as a percentage or in decimal, the coefficient of determination test (R²) seeks to ascertain the relationship between the independent variables and the dependent variable (Ghozali & Latan, 2015). The range of R² values is 0 to 1. The ability of the independent variables to disclose or explain the dependent variable is indicated by a higher R² value.

The range of R² values is 0 to 1. The ability of the independent variables to disclose or explain the dependent variable is indicated by a higher R² value.

Table 8. Uji R Square (Coefficient of Determination)

	R Square	R Square Adjusted
X1_Tenors	0,288	0,287
Y_Arrears	0,165	0,157
Z_Installment	0,879	0,879

Source: Data processed from SmartPLS 3, 2023.

Table 8 displays the squared correlation coefficient, or R Square value, of 0.288. This indicates that the independent variable, loan, accounts for 28.8% or 29% of the variance in the dependent variable, X1_Tenors. The squared result of the correlation coefficient, or R Square value of 0.165, indicates that 16.5% or 17% of the dependent variable, Y_Arrears, can be accounted for by the independent variables, X1_Tenors, X2_Loan, and Z_Installment. In the meantime, the independent variables, X1_Tenors and X2_Loan, can account for 87.9% or 88% of the Z_Installment (dependent) variable, according to the R Square value of 0.879, which is the squared result of the correlation coefficient.

F-Square

The degree to which the independent latent constructs influence the dependent latent constructs is determined by the f-square test results (Ghozali & Latan, 2015). The f-square value categories are as follows: With an f-square value of 0.02, the independent latent construct has a small influence on the dependent latent construct; with an f-square value of 0.15, the independent latent construct has a moderate influence; and with an f-square value of 0.35, the independent latent construct has a large influence on the dependent latent construct (4). According to Hair et al. (2018), an f-square value of less than 0.02 can be disregarded or regarded as having no significance. The range of the F² value is 0 to 1.

Table 9. Uji F Square

	X1_ Tenors	X2_ Loan	Y_ Arrears	Z_ Installment	Loan- Installment	Tenors- Installment
Y_Arrears						
X1_Tenors			0,030	0,197		
X2_Loan	0,405		0,090	6,174		
Z_Installment			0,078			
Loan-Installment			0,000			

	X1_ Tenors	X2_ Loan	Y_ Arrears	Z_ Installment	Loan- Installment	Tenors- Installment
Tenors- Installment			0,082			

Source: Data processed from SmartPLS 3, 2023.

Table 9 f-square (f²) makes the following observations: (1) the relationship between X1_Tenors and Y_Arrears is 0.030, indicating a small or weak relationship; (2) the relationship between X1_Tenors and Z_Installment is 0.197, indicating a moderate relationship; (3) The correlation between X2_Loan and X1_Tenors is 0.405, indicating a large or strong relationship; (4) The correlation between X2_Loan and Y_Arrears is 0.090, indicating a small or weak relationship; (5) The correlation coefficient between X2_Loan and Z_Installment is 6.174, indicating a substantial and robust relationship, potentially even exceedingly strong; and (6) The correlation coefficient between Z_Installment.

Goodness Of Fit (GoF) Test

The average value of R² and the average root value of communality were used in this study's goodness of fit (GoF) test, which was based on the Fornell and Larcker methods (Ghozali & Latan, 2015; Paramita et al., 2020). Validating the combined performance of each model under measurement (outer model) and model structure (inner model) is the goal of the GoF test. The range of the GoF value is 0-1.

Cohen states that the communality value category is separated into four groups: (1) Small, which has a recommended value of 0.02; (2) Moderate, which has a value of 0.13; and (3) Large, which has a value of 0.26 (Ghozali & Latan, 2015). Thus, the GoF value is divided into the following three categories:

$$\text{Little GoF} = \sqrt{0,5 \times 0,02} = 0,10$$

$$\text{Medium GoF} = \sqrt{0,5 \times 0,13} = 0,25$$

$$\text{Big GoF} = \sqrt{0,5 \times 0,26} = 0,36$$

The GoF value in this research model is large because, according to the results of the calculation, it was obtained at 0.719. This is due to the fact that a higher GoF value will better characterize the relevant research sample. For additional information, refer to Table 10's communality value and the GoF value, which is determined by the GoF calculation, as follows:

$$\text{GoF} = \sqrt{\overline{\text{communality}}} \times R^2$$

$$\text{GoF} = \sqrt{1.000 \times 0.518}$$

$$\text{GoF} = \sqrt{0.518}$$

$$\text{GoF} = 0,719$$

Table 10. Communality

	Communality
X1_Tenors	1.000
X2_Loan	1.000
Y_Arrears	1.000
Z_Installment	1.000
Loan-Installment	1.000
Tenors-Installment	1.000

Source: Data processed from SmartPLS 3, 2023.

Q-Square

In this study, the Q-Square test is used to test the structural model in order to determine the parameters of the research model that was employed. A model is deemed to have predictive relevance if the Q-square value yields results greater than 0. A model lacking predictive relative is indicated by a Q-Square value less than zero (Ghozali & Latan, 2015; Paramita et al., 2020). The formula for calculating Q-Square is $Q^2 = 1 - (1 - R^2)(1 - R^2) \dots (1 - R^2)$. The R-Square of the endogenous variables in the research model is denoted by $R^2_1, R^2_2, \dots, R^2_n$. Range of values: $0 < Q^2 < 1$. As per the findings of Ghozali & Latan (2015) and Paramita et al. (2020), an increasing value of Q^2 indicates an improvement in the model structure.

The following are the Q-Square computations used in this study:

Table 11. Square Q Test

Q Square		
X1_Tenors	Y_Arrears	Z_Installment
$1 - (1 - R^2)$	$1 - (1 - R^2)$	$1 - (1 - R^2)$
$1 - (1 - 0,288)$	$1 - (1 - 0,165)$	$1 - (1 - 0,879)$
$1 - (0,712)$	$1 - (0,835)$	$1 - (0,121)$
0,288	0,165	0,879

Source: Data processed from SmartPLS 3, 2023.

The following conclusions can be drawn from the above computation results: (1) X1_Tenors' Q square value is 0.288, indicating that it falls between 0 and Q^2 and 1. Thus, it can be concluded that (1) the Q square value of Y_Arrears is 0.165, indicating that it is in the range $0 < Q^2 < 1$, and (2) the model in this study, which places X1_Tenors as the dependent variable, is good because it is greater than 0. Therefore, it can be concluded that the model used in this study, which designates Y_Arrears as the dependent variable, is sound because it is larger than 1; (3) Z_Installment's Q square value is 0.879, indicating that it falls between 0 and Q^2 and 1. Thus, it can be said

Evaluation of the Relationship between Latent Variables

Hypothesis Test and T-Statistics Test

Table 12 displays the findings of the T-statistic test and the hypothesis test for this study. Specifically, the column original sample (O) displays the path analysis coefficient value when testing between variables, which is as follows:

Table 12. Results of Path Analysis Coefficient Values

	Original Sample (O)	T Statistics (O/STDEV)	P-Values	Description
(1) X1_Tenors -> Y_Arrears	-0,464	2,340	0,019	Negative and Significant
(2) X1_Tenors -> Z_Installment	-0,183	6,199	0,000	Negative and Significant
(3) X2_Loan -> X1_Tenors	0,537	19,935	0,000	Positive and Significant
(4) X2_Loan -> Y_Arrears	3,121	4,235	0,000	Positive and Significant
(5) X2_Loan -> Z_Installment	1,023	70,558	0,000	Positive and Significant
(6) Z_Installment -> Y_Arrears	-1,791	4,435	0,000	Negative and Significant
(7) Loan-Installment -> Y_Arrears	0,001	0,027	0,979	Not Significant
(8) Tenors-Installment -> Y_Arrears	-1,060	4,902	0,000	Negative and Significant

Source: Data processed from SmartPLS 3, 2023.

It is evident from table 12's path analysis coefficient test results that the variables have the following relationship:

- (1) The original sample value (O) X1_Tenors to Y_Arrears is -0.464 with a p-value of 0.019, which means $0.02 < 0.05$, so it can be seen that the effect is negative and significant;
- (2) The original sample value (O) X1_Tenors to Z_Installment is -0.183 with a p-value of 0.000, which means $0.00 < 0.05$, so it can be seen that the effect is negative and significant;
- (3) The original sample value (O) X2_Loan to X1_Tenors is 0.537 with a p-value of 0.000, which means $0.00 < 0.05$, so it can be seen that the effect is positive and significant;
- (4) The original sample value (O) X2_Loan to Y_Arrears is 3.121 with a p-value of 0.000, which means $0.00 < 0.05$, so it can be seen that the effect is positive and significant;
- (5) The original sample value (O) X2_Loan to Z_Installment is 1.023 with a p-value of 0.000, which means $0.00 < 0.05$, so it can be seen that the effect is positive and significant;
- (6) The original sample (O) value of Z_Installment to Y_Arrears is -1.791 with a p-value of 0.000, which means $0.00 < 0.05$, so it can be seen that the effect is negative and significant;
- (7) The original sample (O) Loan-Installment value for Y_Arrears is 0.001 with a p-value of 0.979, which means $0.98 > 0.05$, so it can be seen that it is not significant;
- (8) The original sample (O) Tenors-Installment value for Y_Arrears is -1.060 with a p-value of 0.000, which means $0.00 < 0.05$, so it can be seen that the effect is negative and significant.

Discussion

The Effect of Tenors on Arrears

With a p-value of 0.019, or $0.02 < 0.05$, and an original sample value (O) of X1_Tenors to Y_Arrears of -0.464, it is evident that the effect is significant and negative. As a result, the study's initial hypothesis is accepted. This indicates that Y_Arrears will be smaller if the value of X1_Tenors is increased. The tenor, or extended credit period, can lower debtor arrears, according to the study's findings.

The study's findings are corroborated by the research findings (Setyawan & Yuliarti, 2019; Utami & Dewi, 2021). Utami & Dewi (2021) find that bad loans are significantly impacted negatively by the loan's term. The longer the loan period, the lower the bad credit. Likewise, research results from Setyawan & Yuliarti (2019) show that the credit period has a negative effect on bad credit. This is because the longer a credit must be repaid, the greater the space the customer has to manage it into income that can be used to pay his credit obligations.

The results of this study also mean that the shorter or shorter the credit settlement period, the greater the potential for customer arrears at PT. PAA is based on the data analyzed in this study, which consists of (1) Loan contract data for 2017-2022 and (2) Loan maturity data for 2022-2027.

The study's findings may have consequences for how PT. PAA channels credit to debtors in order to reduce the likelihood of arrears or bad credit by offering a long tenor.

The Effect of Tenors on Installment

With a p-value of 0.000, or $0.00 < 0.05$, the original sample (O) X1_Tenors value for Z_Installment is -0.183, indicating a significant and negative effect. As a result, the study's second hypothesis is accepted. This implies that Z_Installment will either shrink or decrease in value as X1_Tenors is increased. According to the study's findings, the debtor's monthly installments will decrease as the tenor and credit period lengthen. Because of the short tenor, which increases the monthly installments the debtor must pay, there is a higher likelihood of debtor arrears, which can negatively affect credit.

The credit period is the period required by the customer to return all credit within the time agreed by both parties. Thus, the customer will choose a long time compared to a relatively short period of time because it will affect the amount of credit taken or the number of installments to be paid every month.

This also means that the longer the credit settlement period, the smaller the potential for customer arrears or bad credit at PT. PAA is based on the data analyzed in this study and consists of (1) Loan contract data for 2017-2022 and (2) Loan maturity data for 2022-2027.

The study's implications can be taken into account by PT. PAA when extending credit to debtors in an effort to reduce the likelihood of arrears or bad credit.

The Effect of Loans on Tenors

With a p-value of 0.000, or $0.00 < 0.05$, the original sample value (O) of X2_Loan to X1_Tenors is 0.537, indicating a positive and significant effect. Therefore, the third hypothesis put forth in this research is approved.

This means that if X2_Loan is increased, then X1_Tenors will also increase. The results of this study indicate that the greater the X2_Loan value, which is the principal amount of the customer's loan/credit, the longer or longer the loan settlement period is. Conversely, the smaller the principal amount of the customer's loan/credit, the shorter the credit settlement period.

The implications of this research result for PT. PAA can create a loan/credit principal value scheme for each customer with a tenor that is in accordance with the ability of the debtor so that credit settlement by the customer is according to a predetermined target time.

The Effect of Loans on Arrears

With a p-value of 0.000, or $0.00 < 0.05$, the original sample value (O) of X2_Loan to Y_Arrears is 3.121, indicating a positive and significant effect. As a result, the study's fourth hypothesis is accepted. This implies that an increase in X2_Loan will also result in an increase in Y_Arrears.

The results of this study indicate that the greater the principal value of the customer's loan/credit, the greater the potential for arrears or problem loans. This also means that the principal value of a small customer loan will be directly proportional to the little possibility of bad credit.

The study's findings are corroborated by research findings from Marantika & Sampurno (2013). According to research results from Marantika & Sampurno (2013), the more the debtor's loan amount, the less smooth the debtor is in returning credit. According to Marantika & Sampurno (2013), not all of the loans received by debtors are probably used for productive activities. Many debtors misuse the credit they receive for consumptive activities, for example, used to pay for children's education, medical treatment, home renovations, and so on. So, no matter how large the amount of the loan received by the debtor, it does not affect the smooth return of credit, especially if the credit is misused for unproductive activities. This can be seen from the fact that large loans will give customers a large obligation to pay off their debts.

The implications of this research result for PT. PAA to maximize credit analysis in providing customer loan approval because the ability to pay for each customer is not the same. So, a large loan principal for certain customers is not necessarily large for other customers.

The Effect of Loan on Installment

With a p-value of 0.000, or $0.00 < 0.05$, the original sample (O) X2_Loan value for Z_Installment was 1.023, indicating a positive and significant effect. Therefore, the fifth hypothesis put forth in this research is approved. This implies that Z_Installment will increase in tandem with an increase in X2_Loan. According to the study's findings, monthly installments paid by customers increase in proportion to the value of their loan or credit. Conversely, the lower the loan amount, the lower the monthly principal installments that the client must pay.

The implications of this research result for PT. PAA can pay attention to the amount of loans/credit extended to customers with the ability and business / economic conditions of the customer so that customers who have a large ability to pay also get a large portion of the loan so that the economic resources between PT. PAA with debtors can synergize with each other.

The results of this study also prove empirically that PT. PAA, in entering into loan agreements within the 2017-2022 period, whose loan maturities are in the 2022-2027 period, has disbursed credit to customers proportionally because the principal amount of the customer's loan is directly proportional to the size of the principal installment.

The Effect of Installment on Arrears

The effect is evidently negative and significant because the original sample (O) value of Z_Installment to Y_Arrears is -1.791 with a p-value of 0.000, or $0.00 < 0.05$. As a result, the sixth hypothesis put forth in this research is approved. This implies that Y_Arrears will decrease as Z_Installation increases. According to the study's findings, there is a positive correlation between a customer's installment or loan payment amount and the likelihood of arrears or bad credit. On the other hand, small credit or installment payments have the potential to cause bad credit or arrears.

The results of this study are empirical findings that even though the amount of debtor installment/credit payments each month is relatively small, it does not guarantee the avoidance of arrears or bad credit.

The implication of the results of this study is that PT. PAA should be more selective in conducting credit analysis. These findings also provide an overview of credit conditions at PT. PAA in the 2017-2022 period, where relatively small customer installment/loan payments can actually cause arrears even to the level of bad credit.

The study's findings are corroborated by research findings (Dini et al., 2013), which state that the value of installments that must be paid by customers every month can affect the occurrence of bad credit.

The Effect of Loans on Arrears Moderated by Installment

It is evident that the original sample (O) Loan value to Y_Arrears, moderated by Installment, is not significant at 0.001 with a p-value of 0.979, meaning $0.98 > 0.05$. Thus, the study's seventh hypothesis is accepted.

This means that the size of the Loan moderated by Installment does not affect Y_Arrears. The results of this study indicate that the principal amount of a customer's loan, which is moderated by the amount of monthly installment payments, does not affect the customer's arrears. This means that a large principal loan amount does not affect customer arrears if it is moderated by the size of the monthly installment amount.

The Effect of Tenors on Arrears Moderated by Installment

The original sample (O) Tenors value for Y_Arrears moderated by Installment is -1.060 with a p-value of 0.000, which means $0.00 < 0.05$, so it can be seen that the effect is negative and significant. As a result, the study's eighth hypothesis is accepted. This indicates that the Y_Arrears will be smaller the fewer Tenors that the Installment moderates.

The results of this study indicate that the tenor, which is the period of time for settlement of customer loans if moderated by monthly installments, has a negative effect on arrears or the occurrence of bad loans. This means that if the tenor increases the term and is moderated by the number of customer installments, which also increases/increases, it will reduce the occurrence of arrears/bad loans.

4. Conclusions

This study's findings indicate that (1) Tenors have a negative and significant impact on arrears; (2) Tenors have a negative and significant impact on installment; (3) Loans have a positive and significant impact on Tenors; (4) Loans have a positive and significant impact on arrears; (5) Loans have a positive and significant impact on Installment; (6) Installment has a negative and significant impact on arrears; (7) Loans are not significant to Arrears moderated by Installment; and (8) Tenors have a negative and significant impact on Arrears moderated by Installment.

The findings in the study succeeded in providing empirical evidence that the determinants of customer arrears that can have an impact on bad loans are tenors, loans, and installments. To be able to anticipate the occurrence of bad credit, these three factors must be analyzed carefully so that their determination is not burdensome to customers that it has an impact on bad loans, which can interfere with company profitability. In particular, the role of each of these factors is that loans can be controlled by adjusting the tenors so that the installments set at the start of lending are in accordance with the capabilities and economic potential of the customer to minimize the possibility of arrears, which can impact bad loans. A total of 8 (eight) times testing the relationship of each factor, including tenors, installments, and arrears. Of the 8 (eight) tests, only 1 (one) test result was not significant in testing the effect of the number of loans given to customers on customer arrears moderated by Installment, and the test results were not significant.

The implication of the results of this study is the discovery of a systematic factor that needs to be considered by PT. PAA in providing loans/credit to customers by carefully considering the alignment between loans to tenors and then tenors to installments so that the possibility of an arrear will be smaller. The mechanism that needs to be avoided is the tenor of arrivals through installment moderation because it has been proven empirically to have no effect.

Recommendations for further research: (1) Analyze customer loan data, which is classified between consumer loans and productive loans, then analyze them separately; (2) Develop research variables such as Remaining loan principal, Arrears of fines, and Interest arrears.

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