ANALYSIS OF THE RELATIONSHIP BETWEEN THE USAGE OF ONLINE LOAN SERVICES AND THE WELL-BEING OF INDONESIANS USING THE CHI-SQUARE TEST

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ABSTRACT

Online fintech lending offers convenience by providing flexibility for both lenders and borrowers. It led to a significant increase in users. Despite this encouraging growth, it comes with risks, such as the emergence of illegal loan companies. The controversial positive and negative aspects of online loans have sparked the researchers' interest in understanding how the Indonesian public perceives the existence of online loans and whether there is a relationship between the use of online loans and the well-being of users. The data were collected through the questionnaire using Google Form and then distributed to respondents who meet the specified sample criteria, namely Indonesian, aged 17 years old or above, and still able to think rationally. The total study sample is 191 respondents, with the total male is 90 and the total female is 101. Since the results of the data gathered were in the form of categorical data, so the Chi-square test is utilized in this study. With the calculated chi-square less than the chi-square table, it shows that there is no correlation between the frequency of using online loan services and the well-being of the Indonesian people, whether based on age, level of education, or type of job. Hence, it can be concluded that the usage of online loan services does not influence the well-being of Indonesians. It is also known that public perceptions of online loans vary and cannot be generalized. However, those who are less prosperous, tend to agree with and appreciate the online loan services' existence compared to those who are prosperous.

1. INTRODUCTION

The rapid advancement of technology in this digital era continues to progress rapidly, making it increasingly challenging for people to break free from dependence on technological innovations. One major development worth noting is the phenomenon of financial technology, commonly known as fintech [1]. Fintech combines technology with financial aspects, both in the form of automation through machines and internet integration, to simplify financial services [2]. The use of Internet media has become the primary choice in providing financial services, and its usage continues to experience growth [3]. In the era of internet growth and the digital economy, the community continues to innovate in providing lending services. One example is the emergence of online-based lending services, utilizing the existence of the internet, which is considered a significant contributor to building the national economy [4]. Online fintech lending offers convenience by providing flexibility for both lenders and borrowers [5]. They can allocate and obtain funds effectively and transparently, accompanied by competitive interest rates [6]. The advantages of using online loans include ease of understanding, fast data verification processes, and accessibility through various electronic devices such as computers, laptops, tablets, or smartphones directly connected to the internet [7].

The ease of using technology in online lending fintech has led to a significant increase in the number of users. According to the Financial Services Authority data of Indonesia (2020), online loan users in Java increased from 15,397,251 users in 2019 to 34,576,528 in 2020, representing a growth of 55.47% [8]. Although this growth is promising, it also comes with risks, such as the emergence of illegal loan companies. Risks faced by users involve the misuse of personal data, cybercrime, fraud, data leaks, high interest rates, and privacy violations due to excessive contact from lending parties to users or their close associates [9].

The ease and risks associated with this undoubtedly have different impacts on Indonesian society. Based on the authors' subjective observations, the presence of online loans has helped many users feel assisted and able to settle their obligations well [10]. However, there are also many who end up falling into misfortune [11]. In fact, there are cases of murder based on their inability to repay online loans [12]. The positive and negative aspects of these controversial online loans have intrigued the research team to understand how the Indonesian public perceives the existence of online loans and whether there is a relationship between the use of online loans and the well-being of users. This is also in line with the Sustainable Development Goals (SDGs) with 17 global goals. This research includes SDGs goal number 3, which focuses on Good Health and Well-being, aiming to ensure a healthy life and promote well-being for all at all ages [13]. This topic also aligns with SDGs goal number 8, which is Decent Work and Economic Growth, focusing on promoting inclusive economic growth and providing decent work opportunities for everyone.

The research will utilize the Chi-Square Test approach, a non-parametric comparative test suitable for analyzing the relationship between nominal variables [14]. This non-parametric Chi-Square test will be highly useful in social research, such as this study. One example of a study that used the chi-square test for social is the research by Chamidah et al. (2023), which analyzed perceptions of government policy in electricity fuel management as an alternative to substitute oil fuel [15]. However, their study still used the $b \times k$ type of chi-square, so it will be further developed in this research. To date, there has been no research on the relationship between the use of online loans and the well-being or quality of life of Indonesian society, especially using the Chi-Square Test. The previous study by Alfatih et al. (2023) only explained the public's perceptions of online loans and was analyzed using a case study technique and interactive model analysis [9]. Therefore, we will continue the study in a more complex, comprehensive, and quantitatively. This study aims to determine whether the influence of online loan services is the same or different based on the age, occupation, and education levels of the studied population. It will also explore the general public's perception of online loans and whether the well-being of society using online loans differs from those who do not use them.

2. RESEARCH METHODS

2.1 Data Sources

This research utilizes primary data collected through the online questionnaire survey method. The questionnaire for the research is prepared using the Google Form platform and then distributed to respondents who meet the specified sample criteria, namely, aged at least 17 years or above, the nationality is Indonesian, and still able to think rationally. The criteria are very simple because this study aims to explain in detail the

comparison of the welfare conditions of people who use online loans and those who do not, as well as the comparison among age groups, gender, types of occupations, and educational levels. Furthermore, it also aims to understand the overall opinions of the general public, both users and non-users of online loans, regarding online loans. If the sample criteria are specified, then the objective of this study will be difficult to achieve. The sample selection technique used was purposive random sampling because the researchers determined the consideration criteria for this research sample based on the variables of age, educational level, and occupation. With that, eventually the sample used amounted to 191.

2.2 Research Variables

The variables used in this study consist of those employed to understand the public's perception of the presence of online loans and variables used to assess the welfare conditions of the community engaging in online loans based on their circumstances. The research variables used in this study are as follows:

Table 1. Research Variables Explanation

Research Variables	Variables Category	Scale
Opinions regarding the existence of online loans in assisting financial conditions	1. Strongly Agree 2. Agree 3. Disagree 4. Strongly Disagree	Ordinal
Opinions about the existence of online loans lead society into a cycle of debt	1. Strongly Agree 2. Agree 3. Disagree 4. Strongly Disagree	Ordinal
Opinions about the existence of online loans hindering financial stability	1. Strongly Agree 2. Agree 3. Disagree 4. Strongly Disagree	Ordinal
Opinions regarding the existence of online loans in hindering emotional stability	1. Strongly Agree 2. Agree 3. Disagree 4. Strongly Disagree	Ordinal
Opinions on the methods used by online loan service providers in conducting unfavorable debt collection practices	1. Strongly Agree 2. Agree 3. Disagree 4. Strongly Disagree	Ordinal
Age	1. 17-26 years 2. 27-42 years 3. > 42 years	Ordinal
Level of Education	1. Elementary /Junior High/ Senior High 2. D1/D2/D3/D4 3. Bachelor/Master/Doctoral	Ordinal
Job	1. Students/Housewife/Not Working 2. Private Sector Employees/Civil Servants 3. Self - Employed/Freelancer 4. Others	Nominal

2.3 Data Analysis Technique

The data obtained were analyzed using the Independence Test (Freedom Test). This test is used to examine the relationship between two categorical variables (qualitative data). A contingency table is a statistical test used to analyze nominal data to examine the relationship between categorical variables. The contingency table consists of three categorical variables: the row variable (B) with b categories, the column variable (K) with k categories, and the layer variable (L) with l categories. Therefore, a contingency table of size $b \times k \times l$ can be formed. The results of the contingency table analysis can be used to draw conclusions that are either relational (associative) or comparative [16]. The analysis technique began by conducting a descriptive analysis and Chi-square test. Descriptive analysis is used to determine the characteristics of the sample, namely in the form of gender, age, educational level, occupation, the frequency of online loan service usage, and the frequency of well-being conditions among respondents. Meanwhile, the Chi-square test is used to determine the correlation between online loan services usage and the well-being of Indonesians in the form of categorical data.

2.4 Steps in Data Analysis

One of the stages in the research process is the data analysis stage. The data analysis stage is an important stage, where, in this study, data is collected, processed, and presented to help researchers answer the problems being researched. Meanwhile, the main steps of the analysis are described as follows:

1. Test the validity of the data. The validity test can be done by looking at the p-value of the Pearson correlation. If the p-value generated is less than the significance value ($\alpha = 5\%$), then the questions asked in the questionnaire are considered valid [14]. Additionally, it can also be calculated using the Bivariate Pearson Correlation (Pearson Product-Moment Correlation) where if the $r_{calculated} \geq r_{table}$ at 95% significance level ($\alpha = 5\%$), then the instrument is considered valid. The formula for the Pearson Product-Moment Correlation is as follows:

    $$r_{calculated} = \frac{n \sum XY - (\sum X . \sum Y)}{\sqrt{[n \sum X^2 - (\sum X)^2][n \sum Y^2 - (\sum Y)^2]}}$$

    where:
    n = Amount of sample
    ΣXY = Sum of the values of variable x and y multiplication
    ΣX = Sum of the values of variable x
    ΣY = Sum of the values of variable y
    ΣX^2 = Sum of the squared values of variable x
    ΣY^2 = Sum of the squared values of variable y [14].

2. Test the reliability of the data. The reliability test can be conducted by calculating Cronbach's alpha value, where if r (the reliability coefficient of the instrument or alpha coefficient (α)) > 0.6, then the question items are considered reliable [14]. Here is the formula for Cronbach's alpha:

    $$r_i = \frac{k}{(k-1)}\left[1 - \frac{M(k-M)}{k\, s_t^2}\right]$$

    where:
    k = Amount of item or question in the instrument
    M = Total of the mean score
    s_t^2 = Total of variance

3. Conduct descriptive statistical analysis on the obtained research data [17].

4. Create contingency tables in the form of rows and columns for each analyzed variable.

5. Perform Chi-Square testing:

    a. Calculate the total row values or the total values of B
    b. Calculate the total column values or the total values of L.

Table 2. Contingency Table of Chi-square Test

		K									Total
L		**1**			**.....**		**k**				
		1	....	l	total	...	1	....	l	total	
B	**1**	n_{111}	...	n_{11l}	$n_{11.}$	...	n_{1k1}	...	n_{1kl}	$n_{1k.}$	$n_{1..}$
	2	n_{211}	...	n_{12l}	$n_{21.}$	...	n_{2k1}	...	n_{2kl}	$n_{2k.}$	$n_{2..}$
	....	$\vdots$	$\ddots$	$\vdots$	$\vdots$	$\ddots$	$\vdots$	$\ddots$	$\vdots$	$\vdots$	$\vdots$
	b	n_{b11}	...	n_{b1l}	$n_{b1.}$	...	n_{bk1}	...	n_{bkl}	$n_{bk.}$	$n_{b..}$
Total		$n_{.11}$					$n_{.k1}$				
			...					...			
				$n_{.1l}$			...			$n_{.kl}$	
					$n_{.1.}$						$n_{.k.}$	$n_{...}$

c. Calculate the expected frequency value for each cell with the formula below:

$$E_{pqr} = \frac{n_{p..}.n_{.q.}.n_{..r}}{n_{...}^2}$$

where:

n_{pqr} = Frequency of observation in the p-th row, q-th column, and r-th layer.

E_{pqr} = Expected frequency in the p-th row, q-th column, and r-th layer.

d. Calculate the Chi-Square value using the formula below:

$$\chi^2 = \sum_{p=1}^{b}\sum_{q=1}^{k}\sum_{r=1}^{l} \frac{\left(n_{pqr} - E_{pqr}\right)^2}{E_{pqr}}$$

6. Comparing the calculated Chi-Square value with the Chi-Square critical value from the table $X^2_{\alpha;v=bkl-b-k-1+2}$ where $v = degree\ of\ freedom$

7. Making decisions based on the hypothesis:

H_0: There is no dependence between the independent variables and dependent variable

H_1: There is a dependence between the independent variables and dependent variable

where the critical region is rejecting the H_0 if the value of $X^2_{calculated} > X^2_{\alpha(v=bkl-b-k-1+2)}$

8. Interpreting the results of the research and analysis.

3. RESULTS AND DISCUSSION

3.1 Characteristics of Respondents

Descriptive statistics are used to provide an overview or information related to research variable data. The following figures are the results of a descriptive statistical analysis of the data.

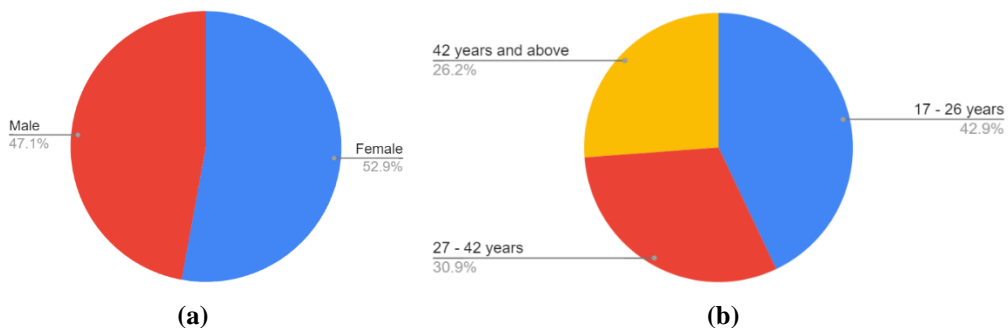**Figure 1.** (a)The Number of Respondents Based on Gender, (b) The Number of Respondents Based on Age

Based on **Figure 1**, the percentage of female respondents in this study is 52.9%, or a total of 101 respondents, while male respondents are 47.1%, totaling 90 respondents. In terms of age, the majority of respondents fall in the age range of 17 to 26 years, constituting 42.9% or 82 respondents. This is followed by

respondents aged 27 to 42 years, representing 30.9% or 59 respondents, and those above 42 years old, comprising 26.2% or 50 respondents.
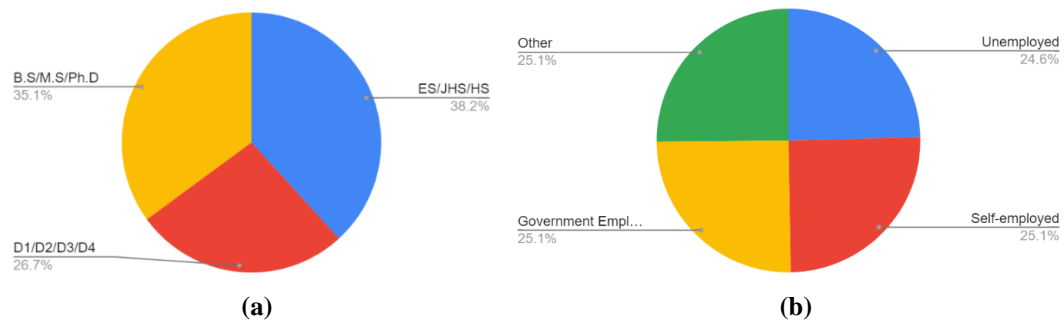

(a)   **(b)**

Figure 2. (a)The Number of Respondents Based on Educational Level, (b) The Number of Respondents Based on Occupation

Based on **Figure 2**, the percentage of respondents with an educational level of Elementary School/Junior High School/High School is 38.2%, totaling 73 respondents. Meanwhile, respondents with the highest educational levels of Diploma 1/Diploma 3/Diploma 4 and Bachelor's Degree/Master's Degree/Doctoral Degree are 26.7% and 35.1%, respectively, accounting for 51 and 67 respondents. Meanwhile, when the respondents are classified based on their occupation, the percentage of respondents who are unemployed is 24.6%, totaling 47 respondents. For respondents with occupations such as Government Employee, Self-employed, and others occupations, they have the same percentage namely 25.1%, which amounts to 48 respondents respectively.
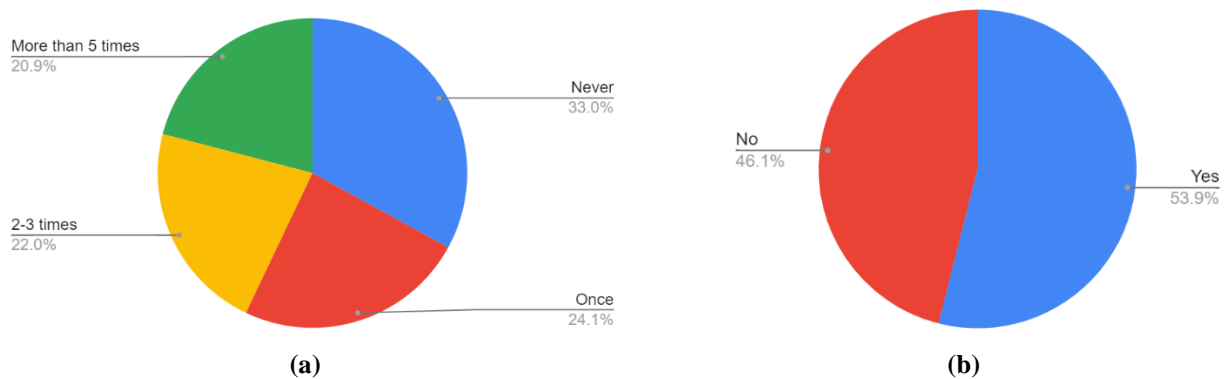

(a)   **(b)**

Figure 3. (a)The Frequency of Online Loan Service Usage, (b) The Frequency of Well-being Conditions among Respondents

Based on **Figure 3**, respondents who have never used online loan services account for 33%, totaling 63 respondents. For respondents who have used online loan services, the frequencies are as follows: once (24.1% or 46 respondents), 2-3 times (22.0% or 42 respondents), and more than five times (20.9% or 40 respondents). Additionally, based on the questionnaire, there is 53.9%, or 103 respondents who are in a state of well-being, while 46.1% or 88 respondents are not well-off.

3.2 Validity Test

To confirm that the result of this value is accurate and can be justified, the validity test is done and the results for each question in the independent variable are shown in **Table 3** below.

Table 3. Validity Test Results for Community Perception Question Items

Questions	P-Value	Score	R Table	Decision
What is your opinion about legal online loans, should legal online loan services be eliminated?	0.000	0.569	0.186	Valid
What is your view on people who use online loan services?	0.000	0.4438	0.186	Valid
What is your opinion regarding the data security aspect of online loan services?	0.000	0.5389	0.186	Valid

Questions	P-Value	Score	R Table	Decision
What is your opinion regarding the debt collection methods of online loan services that often violate rules?	0.036	0.4523	0.186	Valid
What is your opinion regarding the interest rates charged by online loan services?	0.000	0.5302	0.186	Valid
Do you believe the use of online loan services can benefit society?	0.000	0.5345	0.186	Valid

Based on **Table 3** using an alpha of 5%, it was obtained that the P-value for the six questions in the questionnaire was less than 0.05, so it could be concluded that all of the category question items in the questionnaire were valid. To double-check the result, we can determine the validity using the score, too. Since the total sample is 191, then the degree of freedom is n-1 = 191 - 1 = 190. Therefore, with a significance level of 5%, it can be determined that the critical r value (r-table) is 0.186. Therefore, based on **Table 3**, it also can be accurately concluded that the questions in the instrument are valid because all the validity scores are > r-table = 0.186. Hence, we can continue to test the dependent variable.

Table 4. Validity Test Results for Well-being Condition Question Items

Questions	P-Value	Score	R Table	Decision
In your opinion, is your current economic condition satisfactory?	0.012	0.475	0.186	Valid
Do you feel happy and stable in your life right now?	0.015	0.422	0.186	Valid
Do you not feel burdened in your day-to-day life?	0.011	0.395	0.186	Valid
Do you feel secure, calm, and not easily anxious in your daily life?	0.000	0.433	0.186	Valid

Based on the results of the validity test in **Table 4** using an alpha of 5%, it was obtained that the P-value for the four questions in the questionnaire was less than 0.05, so it could be concluded that all of the category question items in the questionnaire were valid. Therefore, these questions can be used in a questionnaire. To double-check the result, we can determine the validity using the score, too. As known before, the critical r value (r-table) is 0.186. Therefore, based on **Table 4**, it also can be accurately concluded that the questions in the instrument are valid because all the validity scores are $> r$-table $= 0.186$.

3.3 Reliability Test

After determining and proofing that all the questions in the questionnaire instrument are valid, a reliability test will be conducted to further demonstrate whether the questionnaire results are reliable. The reliability test results for each answer to each question, both in the independent variable and the dependent variable, are shown in **Table 5** below.

Table 5. Reliability Test Results

Questions	Cronbach's Alpha Value	Decision
Community Perception Question Items	0.663	Reliable
Well-being Condition Question Items	0.706	Reliable

Based on the reliability test results in **Table 5**. the reliability value is 0.663 for community perception questions and 0.706 for well-being condition questions, which is classified as high value, so it can be concluded that the questionnaire is considered capable of disclosing information using an alpha of 5%.

3.4 Community Perception

To obtain community perception, we have included the following six questions to be filled out by all individuals, both users and non-users of online loan services, to provide an overview of the public's knowledge and opinions regarding online loan services:

1. What is your opinion about legal online loans? Should legal online loan services be eliminated?
2. What is your view on people who use online loan services?
3. What is your opinion regarding the data security aspect of online loan services?
4. What is your opinion regarding the debt collection methods of online loan services that often violate rules?

5. What is your opinion regarding the interest rates charged by online loan services?
6. Do you believe the use of online loan services can benefit society?

Table 6. Community Perception Topic 1-3

Scale	Questions					
	1		**2**		**3**	
	Prosperous	Less Prosperous	Prosperous	Less Prosperous	Prosperous	Less Prosperous
Strongly Agree/Positive/Secure	17.5%	9.1%	0%	0%	4.9%	5.7%
Agree/Positive/Secure	26.2%	40.9%	21.4%	30.7%	30.1%	40.9%
Disagree/Negative/Unsecured	49.5%	46.5%	59.2%	62.5%	38.8%	30.7%
Strongly Disagree/ Negative/Unsecured	6.8%	3.4%	10.4%	6.8%	26.2%	22.7%
Total Respondent	103	88	103	88	103	88

From **Table 6**, it is known that the majority of both prosperous and less prosperous people disagree with question number 1, indicating that the public wants legal online loan services to remain available. Furthermore, referring to **Table 6**, it is also evident that the majority of both prosperous and less prosperous people have a negative perception of online loan users. Then, based on **Table 6**, it is shown that the majority of prosperous individuals feel that the data stored in online loan services is not safe, while the majority of less prosperous individuals feel that the data is stored securely. This provides information that, overall, the public has different views on the topic of data security in online loan services.

Table 7. Community Perception Topic 4-6

Scale	Questions					
	4		**5**		**6**	
	Prosperous	Less Prosperous	Prosperous	Less Prosperous	Prosperous	Less Prosperous
Strongly Acceptable/Helpful	22.3%	9.1%	10.7%	4.5%	5.8%	12.5%
Acceptable/Helpful	35.0%	43.2%	30.1%	46.6%	43.7%	77.3%
Unacceptable/Unhelpful	21.4%	30.7%	37.9%	35.2%	35.9%	5.7%
Strongly Unacceptable/Unhelpful	21.4%	17.0%	21.4%	13.6%	14.6%	4.5%
Total Respondent	103	88	103	88	103	88

From **Table 7**, it is known that prosperous individuals tend to find it acceptable the way debtors collect debts. Meanwhile, less prosperous individuals tend to find it acceptable. Furthermore, based on **Table 7**, the majority of both prosperous and less prosperous individuals tend to find the interest rates charged by online loan services acceptable. Then, referring to **Table 7**, it is shown that prosperous individuals have differing opinions; some feel that online loans are helpful, while others feel they are not. Meanwhile, less prosperous individuals agree that this service is helpful.

3.5 Analysis of the Relationship Between the Use of Online Loan Services and the Well-being of the Indonesian Society Based on Age

In conducting the chi-square independence test, hypotheses will be formulated first, followed by filling in the contingency table and then testing the hypotheses. Here are the hypotheses for testing.
a. H_0: There is no dependence between the frequency of using online loan services and the welfare conditions of Indonesian society based on age.
b. H_1: There is a dependence between the frequency of using online loan services and the welfare conditions of Indonesian society based on age.

Table 8. Relationship of Online Loan Services and the Well-being of Indonesians Based on Age

| Frequency of Use | The Well-being of Indonesians Based on Age | | | | | | TOTAL |
| | 17-26 years old | | 27-42 years old | | >42 years old | | |
	Yes	No	Yes	No	Yes	No	
Never	13 (13.1)	14 (13.9)	10 (10.2)	11 (9.2)	5 (7.9)	10 (8.6)	63
1-2 times of use	12 (9.6)	9 (10.1)	8 (7.5)	6 (6.7)	6 (5.8)	5 (6.3)	46
3-5 times of use	8 (8.8)	11 (9.2)	8 (6.8)	6 (6.2)	5 (5.3)	4 (5.7)	42
>5 times of use	7 (8.4)	8 (8.7)	5 (6.5)	5 (5.9)	8 (5.0)	7 (5.5)	40
TOTAL	40	42	31	28	24	26	191

Using a significance level of $\alpha = 5\%$, the critical region for rejecting H$_0$ is $X^2_{calculated} > X^2_{\alpha(v=bkl-b-k-1+2)}$ where $X^2{}_{\alpha(v)} = 27,58711$, where df (v) = rows × columns × l - rows – columns - l + 2 = 4×3×2-4-3-2+2 = 17. Consequently, the test statistic result is:

$$X^2 = \sum_{p=1}^{b} \sum_{q=1}^{k} \sum_{r=1}^{l} \frac{\left(n_{pqr} - e_{pqr}\right)^2}{e_{pqr}}$$

$$= \sum_{p=1}^{4} \sum_{q=1}^{3} \sum_{r=1}^{2} \frac{\left(n_{pqr} - e_{pqr}\right)^2}{e_{pqr}}$$

$$= \frac{(n_{111} - e_{111})^2}{e_{111}} + \frac{(n_{112} - e_{112})^2}{e_{112}} + \frac{(n_{121} - e_{121})^2}{e_{121}} + \cdots + \frac{(n_{432} - e_{432})^2}{e_{432}}$$

$$= \frac{(13-13.19371728)^2}{13.19371728} + \frac{(14-13.85340314)^2}{13.85340314} + \frac{(10-10.22513089)^2}{10.22513089} + \cdots + \frac{(7-5.445026178)^2}{5.445026178}$$

$$= \mathbf{6.865281187}$$

Based on the Chi-square calculation above, the decision is to not reject H_0 because the calculated Chi-square (6.865281187) is less than the Chi-square table value (27.58711). Thus, it can be concluded that there is no relationship between the frequency of using online loan services and the welfare conditions of Indonesian society based on their age. Due to the absence of a relationship in this variable, there is no need to conduct Cramer's V test or further tests indicating which variable is influential.

3.6 Analysis of the Relationship Between the Use of Online Loan Services and the Well-being of the Indonesian Society Based on Education Level

In conducting the chi-square independence test, hypotheses will be formulated first, followed by filling in the contingency table and then testing the hypotheses. Here are the hypotheses for testing.

a. H_0: There is no dependence between the frequency of using online loan services and the welfare conditions of Indonesian society based on education level.

b. H_1: There is a dependence between the frequency of using online loan services and the welfare conditions of Indonesian society based on education level.

Table 9. Relationship of Online Loan Services and the Well-being of Indonesians Based on Education

| Frequency of Use | The Well-being of Indonesians Based on Education Level | | | | | | TOTAL |
| | Elementary/Junior High/Senior High | | D1/D2/D3/D4 | | Bachelor/Master/ Doctoral | | |
	Yes	No	Yes	No	Yes	No	
Never	20 (13.9)	8 (10.2)	9 (8.3)	6 (8.6)	14 (11.9)	6 (10.2)	63
1-2 times of use	10 (10.1)	7 (7.5)	6 (6.0)	6 (6.3)	9 (8.7)	8 (7.5)	46
3-5 times of use	6 (9.2)	7 (6.8)	5 (5.5)	7 (5.7)	8 (7.9)	9 (6.8)	42
>5 times of use	6 (8.8)	9 (6.5)	5 (5.2)	7 (5.5)	5 (7.5)	8 (6.5)	40
TOTAL	42	31	25	26	36	31	191

Using a significance level of $\alpha = 5\%$, the critical region for rejecting H_0 is $X^2_{calculated} > X^2_{\alpha(v=bkl-b-k-1+2)}$ $X^2_{\alpha(v)} = 27,58711$, where df (v) = rows × columns × 1 - rows – columns - 1 + 2 = 4×3×2-4-3-2+2 = 17. Consequently, the test statistic result is:

$$X^2 = \sum_{p=1}^{b}\sum_{q=1}^{k}\sum_{r=1}^{l}\frac{\left(n_{pqr}-e_{pqr}\right)^2}{e_{pqr}}$$

$$= \sum_{p=1}^{4}\sum_{q=1}^{3}\sum_{r=1}^{2}\frac{\left(n_{pqr}-e_{pqr}\right)^2}{e_{pqr}}$$

$$= \frac{(n_{111}-e_{111})^2}{e_{111}} + \frac{(n_{112}-e_{112})^2}{e_{112}} + \frac{(n_{121}-e_{121})^2}{e_{121}} + \cdots + \frac{(n_{432}-e_{432})^2}{e_{432}}$$

$$= \frac{(20-13.85340314)^2}{13.85340314} + \frac{(8-10.22513089)^2}{10.22513089} + \frac{(9-8.246073298)^2}{8.246073298} + \cdots + \frac{(8-6.492146597)^2}{6.492146597}$$

$$= \mathbf{11.96154033}$$

Based on the Chi-square calculation above, the decision is to not reject H_0 because the calculated Chi-square (11.96154033) is less than the Chi-square table value (27.58711). Thus, it can be concluded that there is no relationship between the frequency of using online loan services and the welfare conditions of Indonesian society based on their age. Due to the absence of a relationship in this variable, there is no need to conduct Cramer's V test or further tests indicating which variable is influential.

3.7 Analysis of the Relationship Between the Use of Online Loan Services and the Well-being of the Indonesian Society Based on Occupation

In conducting the chi-square independence test, hypotheses will be formulated first, followed by filling in the contingency table and then testing the hypotheses. Here are the hypotheses for testing.
   a. H_0: There is no dependence between the frequency of using online loan services and the welfare conditions of Indonesian society based on occupation.
   b. H_1: There is a dependence between the frequency of using online loan services and the welfare conditions of Indonesian society based on occupation.

Table 10. Relationship of Online Loan Services and the Well-being of Indonesians Based on Occupation

Frequency of Use	The Well-being of Indonesians Based on Occupation								TOTAL
	Students/Housewife/ Not Working		Private Sector Employees/Civil Servants		Self - Employed/ Freelancer		Others		
	Yes	No	Yes	No	Yes	No	Yes	No	
Never	12 (8.9)	9 (6.6)	9 (7.9)	2 (7.9)	12 (7.9)	6 (7.9)	8 (7.9)	5 (7.9)	63
1-2 times of use	3 (6.5)	4 (6.5)	7 (5.8)	9 (5.8)	5 (5.8)	7 (5.8)	5 (5.8)	6 (5.8)	46
3-5 times of use	8 (5.9)	3 (5.9)	3 (5.3)	7 (5.3)	3 (5.3)	6 (5.3)	5 (5.3)	7 (5.3)	42
>5 times of use	4 (5.7)	4 (5.7)	5 (5.0)	6 (5.0)	4 (5.0)	5 (5.0)	6 (5.0)	6 (5.0)	40
TOTAL	27	20	24	24	24	24	24	24	191

Using a significance level of $\alpha = 5\%$, the critical region for rejecting H0 is $X^2_{calculated} > X^2_{\alpha(v=bkl-b-k-1+2)}$ where $X^2_{\alpha(v)} = 36,41503$, where df (v) = rows × columns × 1 - rows – columns - 1 + 2 = 4×4×2-4-4-2+2 = 24. Consequently, the test statistic result is:

$$X^2 = \sum_{p=1}^{b}\sum_{q=1}^{k}\sum_{r=1}^{l}\frac{\left(n_{pqr}-e_{pqr}\right)^2}{e_{pqr}}$$

$$= \sum_{p=1}^{4}\sum_{q=1}^{4}\sum_{r=1}^{2}\frac{\left(n_{pqr}-e_{pqr}\right)^2}{e_{pqr}}$$

$$= \frac{(n_{111}-e_{111})^2}{e_{111}} + \frac{(n_{112}-e_{112})^2}{e_{112}} + \frac{(n_{121}-e_{121})^2}{e_{121}} + \cdots + \frac{(n_{442}-e_{442})^2}{e_{442}}$$

$$= \frac{(12-8.905759162)^2}{8.905759162} + \frac{(9-6.596858639)^2}{6.596858639} + \frac{(9-7.916230366)^2}{7.916230366} + \cdots + \frac{(6-5.02617801)^2}{5.02617801}$$

$$= \mathbf{22.66087701}$$

Based on the Chi-square calculation above, the decision is not to reject H_0 because the calculated Chi-square (22.66087701) is less than the Chi-square table value (36,41503). Thus, it can be concluded that there is no relationship between the frequency of using online loan services and the welfare conditions of Indonesian society based on their age. Due to the absence of a relationship in this variable, there is no need to conduct Cramer's V test or further tests indicating which variable is influential.

4. CONCLUSIONS

Based on the analysis conducted, it is known that there is no correlation between the frequency of using online loan services and the well-being of the Indonesian people, whether based on age, level of education, or type of job. Hence, it can be concluded that the usage of online loan services does not influence the well-being of Indonesians. It is also known that public perceptions of online loans vary and cannot be generalized. However, those who are less prosperous, tend to agree with and appreciate online loan services compared to those who are prosperous.

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