

## ANALYSIS OF CUSTOMER SATISFACTION WITH LIVIN BY MANDIRI VIRTUAL CREDIT CARD FEATURES

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**Abstract**— Credit cards are a payment method that replaces cash, enabling transactions at various locations that accept them. Credit cards can be physical or virtual, with virtual cards facilitating transactions without the need for a physical card. Bank Mandiri offers virtual credit cards to support digital transactions, providing benefits such as discounts and cashback. Although Bank Mandiri experienced a decline in credit card usage during the pandemic, there has been a post-pandemic upward trend influenced by the features of the virtual credit card in Livin' by Mandiri. This is attributed to customer satisfaction, which has become a key factor in this increase. However, as of now, there has been no research conducted on customer satisfaction regarding the virtual credit card feature in Livin' by Mandiri. Therefore, this study aims to analyze customer satisfaction levels with the virtual credit card feature using the PIECES Method (Performance, Information, Economy, Control, Efficiency, and Service). To support the theoretical framework of this issue, relevant journal reviews and data collection through questionnaires were conducted, with the population size based on Bank Mandiri's annual reports for 2022–2023. The analysis of the questionnaire data, employing the PIECES method and the Likert Scale, revealed the highest scores in the categories of Performance and Service, both scoring 4.20. The Efficiency category scored 4.19, while the Information and Control categories each scored 4.15. The lowest score was observed in the Economy category, with a score of 4.13. Therefore, it can be concluded that customers are satisfied.

**Keywords:** Livin By Mandiri, PIECES Method, Satisfaction Level, Virtual Credit Card Feature.

**Intisari**— Kartu kredit adalah metode pembayaran yang menggantikan uang tunai, memungkinkan transaksi di berbagai tempat yang menerima kartu tersebut. Kartu kredit terdiri dari fisik dan virtual,

dengan yang virtual memungkinkan transaksi tanpa kartu fisik. Bank Mandiri menawarkan kartu kredit virtual untuk mendukung transaksi digital dan memberikan keuntungan seperti diskon dan cashback. Meskipun volume kartu kredit Bank Mandiri menurun selama pandemi ada tren peningkatan penggunaan setelahnya dipengaruhi oleh fitur kartu kredit virtual Livin By Mandiri. Ini karena kepuasan nasabah yang menjadi salah satu aspek meningkatnya. Tetapi sayangnya sampai saat ini belum ada diteliti kepuasan pelanggan pada fitur kartu kredit virtual Livin By Mandiri. Maka dari itu penelitian ini bertujuan untuk menganalisis tingkat kepuasan nasabah terhadap fitur kartu kredit virtual menggunakan metode PIECES (Performance, Information, Economy, Control, Efficiency, dan Service). Untuk mendukung teori masalah ini, dilakukan juga pengumpulan jurnal terkait dan pengumpulan data dari kuesioner yang disebarkan didasarkan dari jumlah populasi data dari laporan tahunan bank mandiri tahun 2022–2023. Hasil perhitungan data kuesioner penelitian menggunakan metode PIECES dan Skala Likert, mendapatkan nilai tertinggi pada kategori Performance dan Service dengan nilai yang sama yaitu 4,20. Selanjutnya kategori Efficiency mendapatkan nilai 4,19, kategori Information dan Control mendapatkan nilai 4,15. Sedangkan nilai terendah berada pada kategori economy, dengan nilai 4,13. Dengan demikian, dapat disimpulkan bahwa nasabah merasa puas.

**Kata Kunci:** Livin By Mandiri, Metode PIECES, Tingkat Kepuasan, Kartu Kredit Virtual.

### INTRODUCTION

A credit card is a form of financing for purchasing goods and services using a card, which will later be billed to the user by the credit card issuer (Dudiyanto et al., 2021). Credit cards are

known as a means of payment for purchasing goods and services from banking services and financial companies as well as for withdrawing cash from banks and financial companies. The bank's service portfolio is also one of the superior credit card products and an important means of supporting cashless transactions which are increasingly becoming a trend in the modern banking world.

Based on the form, credit cards are divided into two types, namely physical and virtual. This type of physical credit card is for carrying out various offline transactions found in shops or merchants that only have EDC machines, while the virtual credit card type is a feature that customers use to make online transactions. Virtual credit cards can be used for QRIS, Tap To Pay transactions and online shopping. Factors such as income, benefits, convenience and security together have a significant influence on interest in using credit card services (Imtihan et al., 2021).

With the virtual credit card feature on Livin' By Mandiri, customers can also carry out online e-commerce transactions using the "Virtual Card" menu. QRIS transactions by accessing QR payment (QR Payment). Tap to pay transactions (for Android users). Also Power Buy transactions which convert transactions into installments which can be accessed via Livin' By Mandiri. Cash disbursement transactions or Power Cash use the virtual credit card feature for selected customers. This is part of a financial ecosystem that supports customer and business activities in Indonesia. By offering a virtual credit card feature, Bank Mandiri also provides comprehensive financial solutions and meets the needs of various customers ranging from individual card holders to businesses. Their virtual credit card feature is expected to provide more value and provide convenience for customers.

Based on Bank Mandiri's 2020 annual report, the growth in Bank Mandiri credit card volume decreased significantly in 2019-2022 due to the COVID-19 pandemic. In 2019, the sales volume was 42,320,317, while in 2020 the sales volume decreased to 27,771,829. The reason for this decline is people's tendency to limit consumption and recreational spending during the COVID-19 pandemic. Generally based on consumer needs to obtain instant credit access, ease of transactions, and other benefits. Banks typically view credit card offerings as a way to expand their customer base and increase revenue through interest and other fees. In 2021, credit card volume will increase to 30,508,639. Then in the following year, in 2022, credit card volume will increase again to 40,419,735. And finally at the end of 2023 it increased to 51,187,330.

The increasing usage of the virtual credit card feature in Livin' by Mandiri has been observed

annually, as reported in Bank Mandiri's 2023 annual report. Several factors have contributed to the growth in credit card volume since the pandemic, including transaction convenience, instant credit access, benefits and incentives, interest rates and fees, as well as marketing and promotional efforts. Additionally, customer satisfaction with the virtual credit card feature in Livin' by Mandiri plays a crucial role. Customer satisfaction is the feeling of pleasure or disappointment that arises after comparing the received product results with the expected outcomes. This satisfaction occurs naturally and is not forced (Maulidiah et al., 2023).

Several factors influence customer satisfaction in using a product or service, namely performance, information, economy, control, efficiency, and service. To analyze these factors, the PIECES framework is employed. The PIECES method is particularly significant as it provides a comprehensive framework for evaluating customer satisfaction.

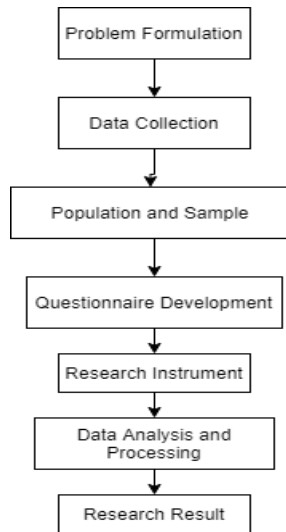
However, no prior research has specifically examined whether the virtual credit card feature in Livin' by Mandiri meets customer satisfaction criteria using the PIECES method. This study is based on previous research that has analyzed customer satisfaction using the PIECES framework, such as the study conducted by (Lalujan & Rahardja, 2023) on "User Satisfaction Analysis of the DANA E-Wallet Service Using the PIECES Method." Another relevant study by (Kirana & Harahap, 2022) applied the PIECES framework to analyze user satisfaction with the features of the Livin' by Mandiri application.

Therefore, this study aims to analyze customer satisfaction with the virtual credit card feature in Livin' by Mandiri using the PIECES method, which encompasses six variables: Performance, Information, Economy, Control, Efficiency, and Service.

By assessing customer satisfaction through the PIECES method, Bank Mandiri can gain a deeper understanding of customer needs and expectations. This approach enables the bank to enhance service quality and product offerings to better align with customer-specific requirements. Consequently, customers will experience improved and more personalized banking services.

## MATERIALS AND METHODS

The research method is a complete description of the research process, encompassing all stages from problem identification to research results.



Source: (Wibisono et al., 2024)

Figure 1. The research method

#### A. Problem Formulation

The problem formulation identified the issue by determining the research object, namely the virtual credit card feature. The research method employed was quantitative, aiming to analyze the sample using a statistical approach and test the hypotheses.

#### B. Data Collection

This process involved gathering data and information. A literature review was conducted by studying various sources such as previous research, book references, journals, and other relevant media to support this study (secondary data). Additionally, primary data were collected through questionnaires distributed for this research to obtain comprehensive information. This process also aimed to understand data processing techniques and apply these methods in the analysis.

#### C. Population and Sample

The population reflects the generalization area of the research object determined to be understood and concluded (Hermina & Huda, 2024). In this study, the population consisted of customers who used the Livin by Mandiri virtual credit card feature in the Jabodetabek area. The sample represents a portion of the population as the research object (Asrulla et al., 2023). If the population is too large and constrained by various limitations, the researcher cannot include the entire population. Therefore, a sample of the population was used.

#### D. Questionnaire Development

At this stage, a questionnaire was created and used as a data source. According to (Prawiyogi et al., 2021), a questionnaire is a data collection technique conducted by providing respondents with a series of written questions. Respondents were given the

prepared questionnaire, which was distributed via a Google Form link. The collected data from this questionnaire came from customers who were users of the virtual credit card feature.

#### E. Research Instrument

The research instrument involved validity and reliability testing. The validity test was used to determine whether the questions provided reliable information. If the instrument was valid, it could be used for measurement. Validity was measured using the correlation coefficient ( $r$ ), while reliability served as a measure to ensure stability in results and consistency over different periods. The reliability test assessed whether the instrument was capable of consistently obtaining accurate data.

#### F. Data Analysis and Processing

Data processing for this research was conducted in stages, starting with a literature review and designing the questionnaire content for the study. The questionnaire focused on customer satisfaction with the Livin by Mandiri virtual credit card feature. The collected data were analyzed using a Likert Scale, referencing the parameters of the PIECES method. (Wandri et al., 2021) explains that the Likert scale is designed to reveal attitudes in terms of pros and cons, positive and negative, or agreement and disagreement toward a social object. The processing technique involved analyzing the questionnaire results using the Likert Scale, followed by calculating the average satisfaction level using the following formula:

$$RK = \frac{JSK}{JK} \quad (1)$$

Description:

Average Satisfaction (RK): The mean value of satisfaction.

Total Questionnaire Score (JSK): The total score obtained from the questionnaires.

Total Number of Questionnaires (JK): The total number of questionnaires distributed.

(Naibaho et al., 2021) Kaplan & Norton used their theory to calculate the percentage or proportion of average satisfaction, with the following value ranges: 1.00 to 1.79: Very Dissatisfied, 1.80 to 2.59: Dissatisfied, 2.60 to 3.39: Moderately Satisfied, 3.40 to 4.19: Satisfied, 4.20 to 5.00: Very Satisfied.

#### G. Research Results

The research results represent the final step to obtain the analysis outcomes of the calculated questionnaire data, which are related to the six PIECES variables: Performance, Information, Economy, Control, Efficiency, and Service. (Isma & Yusuf, 2025) Research variables are the

characteristics, values, or attributes of the object of study that have certain variations.

## RESULTS AND DISCUSSION

### A. Results of Problem Formulation

The PIECES method was used to analyze the level of customer satisfaction with the Livin by Mandiri virtual credit card feature. (Hasibuan et al., 2021) defines customer satisfaction as the level of happiness, positive perception, and fulfillment that customers feel toward a company's product, service, or experience. The PIECES method provides a comprehensive framework for evaluating customer satisfaction. Several factors influence customer satisfaction, namely performance, information, economy, control, efficiency, and service.

### B. Results of Data Collection

Primary data were obtained through evaluations provided by users of the Livin by Mandiri virtual credit card feature using the PIECES method via a Google Form questionnaire ([https://docs.google.com/forms/d/e/1FAIpQLScWlLyelg2gvEbgsmCTPyrEtactgc8W1zZpBa\\_KG-Spb\\_haXQ/viewform?vc=0&c=0&w=1&flr=0](https://docs.google.com/forms/d/e/1FAIpQLScWlLyelg2gvEbgsmCTPyrEtactgc8W1zZpBa_KG-Spb_haXQ/viewform?vc=0&c=0&w=1&flr=0)). The questionnaire included primary data such as age, last education, gender, domicile, and prior use of the Livin by Mandiri virtual credit card. The main sources of information for this research were supported by secondary data. Secondary data collection involved observations of specific features of the Livin by Mandiri virtual credit card and sourcing relevant materials such as reference journals related to the research topic. After distributing the questionnaire and collecting responses, validity and reliability tests will be conducted. The data will then be processed using the Likert scale and analyzed based on the PIECES method variables.

### C. Results of Population and Sample

The population consisted of credit card users who performed installments via Livin by Mandiri and used the virtual credit card feature, totaling 1,520,000 users, as reported in Bank Mandiri's 2023 annual report. The sampling technique used in this study is random sampling from a population of 1,520,000 users of the virtual credit card feature in Livin' by Mandiri in the Jabodetabek area, using Slovin's formula with a 10% margin of error, based on the total population. The calculation is as follows:

$$n = \frac{N}{1+N.e^2} \quad (2)$$

$$n = \frac{1520000}{1+1520000(0.1)^2}$$

$$n = \frac{1520000}{1+1520000(0.01)^2}$$

$$n = \frac{1520000}{1+15201}$$

$$n = 99,99 = 100$$

From the formula, the calculated sample size was 99.99. To simplify the calculation, the sample was rounded to 100 respondents. These respondents were users of the Livin by Mandiri virtual credit card feature, with a margin of error of 10% and a confidence level of 90%.

### D. Questionnaire Result

In this study, there were six PIECES variables. The research questionnaire included 30 questions, with each variable—Performance, Information, Economy, Control, Efficiency, and Service—represented by five questions. Respondent characteristics were analyzed to evaluate customer satisfaction with the Livin by Mandiri virtual credit card feature based on factors such as gender, age, and educational background.

### E. Research Instrument Results

The results were determined based on the research variables within the PIECES method, involving 30 research questions. Performance testing was conducted for these variables using SPSS software for instrument calculation.

A validity test was carried out by calculating the correlation values between the data for each questionnaire item. At this stage, the validity test was performed by correlating the score of each question item with the total score using Pearson's correlation method. The IBM SPSS Statistics 25 application was chosen for conducting this validity test (Haqqi & Ilmi, 2023). The criteria for validity were as follows:

- A questionnaire item was deemed valid if  $r\text{-count} > r\text{-table}$ .
- Conversely, it was deemed invalid if  $r\text{-count} < r\text{-table}$ .

The validity test was applied to the 30 questions distributed to 100 respondents. Below is the data used to conduct the validity test for the Livin by Mandiri virtual credit card feature:

$$N = 100$$

$$\text{Degree of freedom (df)} = n - 2 = 100$$

$$\alpha = 10\% \text{ or } 0.1$$

$$r \text{ tabel} = 0.165$$

Table 1. Validity Test Result

Parameter	Variable	rhitung	rtabel	result
Performance	X1.1	0.564	0.165	Valid
	X1.2	0.496	0.165	Valid
	X1.3	0.530	0.165	Valid
	X1.4	0.562	0.165	Valid
	X1.5	0.560	0.165	Valid
Information	X2.1	0.573	0.165	Valid
	X2.2	0.647	0.165	Valid
	X2.3	0.610	0.165	Valid
	X2.4	0.622	0.165	Valid
	X2.5	0.603	0.165	Valid
Economy	X3.1	0.597	0.165	Valid
	X3.2	0.666	0.165	Valid
	X3.3	0.540	0.165	Valid
	X3.4	0.633	0.165	Valid
	X3.5	0.598	0.165	Valid
Control	X4.1	0.630	0.165	Valid
	X4.2	0.673	0.165	Valid
	X4.3	0.590	0.165	Valid
	X4.4	0.544	0.165	Valid
	X4.5	0.529	0.165	Valid
Service	X6.1	0.487	0.165	Valid
	X6.2	0.545	0.165	Valid
	X6.3	0.511	0.165	Valid
	X6.4	0.522	0.165	Valid
	X6.5	0.586	0.165	Valid

Source: (Research Result, 2025)

Reliability measures how dependable the results of a measurement tool are. States that a reliability test is a tool for measuring the extent to which a questionnaire can be trusted as an indicator of a specific variable (Loindong et al., 2023) . A reliability test will be conducted on the questionnaire items that have already been validated, using the Cronbach's Alpha technique. A questionnaire item is considered reliable if the Cronbach's Alpha value exceeds the rtabel value. Conversely, if the Cronbach's Alpha value is less than rtabel, the questionnaire item is deemed unreliable or not dependable. The formula to calculate Cronbach's Alpha is as follows:

$$r_{11} = \left( \frac{k}{(k-1)} \right) \left( 1 - \frac{\sum \sigma_t^2}{\sigma_t^2} \right) \quad (2)$$

$r_{11}$  = Cronbach's Alpha

$k$  = Number of items in the questionnaire

$\sum \sigma_t^2$  = Variance of each individual item

$\sigma_t^2$  = Total variance

Table 2. Reliability Test Result

Parameter	Cronbach Alpha	Result
Performance	0.682	Reliabel
Information	0.740	Reliabel
Economic	0.725	Reliabel
Control	0.705	Reliabel
Efficiency	0.710	Reliabel
Service	0.685	Reliabel

Source: (Research Result, 2025)

#### F. Research Of Problem Formulation

An analysis was conducted on the validity and reliability of the questionnaire distributed to 100 respondents. It was determined that the questionnaire was both highly valid and reliable. Subsequently, the data obtained from the questionnaire were processed using a Likert Scale to assess the customer satisfaction level with the virtual credit card feature based on the response choices and score values. In variable Performance, there were 5 question items included in the research questionnaire. The respondents' answers for these items can be viewed in Tables 3 and 4.

Table 3. Performance Question

No.	Performance Question
1.	Do you find it easy to use the features and navigation available on your Livin By Mandiri Virtual Credit Card?
2.	Can the Virtual Credit Card feature on the livin by Mandiri application function smoothly without any problems?
3.	Can the Virtual Credit Card feature on the Livin by Mandiri application function smoothly without any problems?
4.	Do you like the appearance of the features on your Virtual Livin By Mandiri credit card?
5.	Is the selection process for your virtual credit card feature easy to do?

Source: (Research Result, 2025)

Table 4. Criteria Performance

Criteria				
STS	TS	N	S	SS
0	1	6	63	30
0	0	11	63	26
0	0	5	65	30
0	0	10	62	28
0	0	5	67	28

Source: (Research Result, 2025)

To measure customer satisfaction with the virtual credit card feature, the Likert Scale formula was used with the following calculations:

$$RK = \frac{JSK}{JK} \quad (3)$$

$$RK = \frac{(1*0)+(2*1)+(3*37)+(4*320)+(5*142)}{500}$$

$$RK = \frac{2103}{500}$$

$$RK = 4.20$$

The average satisfaction level of customers in the Performance variable towards the Livin By Mandiri virtual credit card feature was calculated based on the results, leading to the conclusion that customers of the Livin By Mandiri virtual credit card fall into the VERY SATISFIED category.

The Information variable includes 5 questions formulated in the questionnaire, and respondent scores can be seen in Tables 5 and 6.

Table 5. Information Question

No.	Information Question
1.	You can identify with easily key information (card number, cardholder name, expiry date) on Virtual credit cards Your Livin By Mandiri?
2.	You don't need complicated data input on the Livin By Mandiri virtual credit card feature?
3.	Do you agree, the feature options on virtual credit cards display appropriate information?
4.	Can you easily read the output resulting from your Virtual Livin By Mandiri credit card transactions? Example proof of QRIS transactions and online transactions?
5.	Can you easily understand the features presented by the Virtual Livin By Mandiri credit card?

Source: (Research Result, 2025)

Table 6. Criteria Information

Criteria				
STS	TS	N	S	SS
0	1	12	55	32
0	0	5	74	21
0	1	12	68	19
0	0	7	63	30
0	0	7	71	22

Source: (Research Result, 2025)

To measure customer satisfaction with the Information variable in the virtual credit card feature, the Likert Scale formula was used with the following calculations:

$$RK = \frac{(1*0)+(2*2)+(3*43)+(4*331)+(5*124)}{500}$$

$$RK = \frac{2077}{500}$$

$$RK = 4.15$$

The average satisfaction level of customers in the Information variable towards the Livin By Mandiri virtual credit card feature was calculated based on the results, leading to the conclusion that users of the Livin By Mandiri virtual credit card feature fall into the SATISFIED category. The Economy variable includes 5 questions formulated in the research questionnaire, and respondent answers can be seen in Tables 7 and 8.

Table 7. Economy Question

No.	Information Question
1.	Does the Virtual Credit Card feature offer benefits for you in making payment transactions?
2.	Overall, the virtual credit card feature allows payments for various transaction needs virtually?

No.	Information Question
3.	Virtual credit cards bring significant changes in development for everyday transactions?
4.	Can the Livin By Mandiri virtual credit card feature speed up transactions?
5.	Whenever you can do it transactions using the virtual credit card feature?

Source: (Research Result, 2025)

Table 8. Criteria Economy

Criteria				
STS	TS	N	S	SS
0	0	11	59	30
0	0	9	69	22
0	1	7	66	26
0	3	7	71	19
0	0	12	62	26

Source: (Research Result, 2025)

To measure customer satisfaction with the Economy variable in the virtual credit card feature, the Likert Scale formula was used with the following calculations:

$$RK = \frac{(1*0)+(2*4)+(3*46)+(4*327)+(5*123)}{500}$$

$$RK = \frac{2069}{500}$$

$$RK = 4.13$$

The average satisfaction level of customers in the Economy variable towards the Livin By Mandiri virtual credit card feature was calculated based on the results, leading to the conclusion that users of the Livin By Mandiri virtual credit card feature fall into the SATISFIED category.

The Control variable includes 5 questions formulated in the research questionnaire, and respondent answers can be seen in Tables 9 and 10

Table 9. Control Question

No.	Information Question
1.	Does the virtual credit card feature protect your data?
2.	Virtual Livin By credit card features Mandiri already has a very good security system?
3.	Do you agree, the virtual credit card feature service has zero system errors?
4.	Do you feel that the Livin by Mandiri virtual credit card service process features and options are complex and easy to understand?
5.	The data in your virtual credit card feature cannot be changed except for the PIN?

Source: (Research Result, 2025)

Table 10. Criteria Control

Criteria				
STS	TS	N	S	SS
0	2	16	55	27
0	0	11	63	26
0	0	11	58	31

Criteria				
STS	TS	N	S	SS
0	0	8	68	24
0	0	10	61	29

Source: (Research Result, 2025)

To measure customer satisfaction with the Control variable in the virtual credit card feature, the Likert Scale formula was used with the following calculations:

$$RK = \frac{(1*0)+(2*2)+(3*56)+(4*305)+(5*137)}{500}$$

$$RK = \frac{2077}{500}$$

$$RK = 4.15$$

The average satisfaction level of customers in the Control variable towards the Livin By Mandiri virtual credit card feature was calculated based on the results, leading to the conclusion that users of the Livin By Mandiri virtual credit card feature fall into the SATISFIED category.

The Efficiency variable includes 5 questions formulated in the research questionnaire, and respondent answers can be seen in Tables 11 and 12.

Table 11. Efficiency Question

No.	Efficiency Question
1.	Can the Livin By Mandiri virtual credit card feature save you time?
2.	Virtual credit card feature can produce appropriate output in a short time?
3.	Virtual credit card feature services can used wherever and whenever?
4.	Do you find it easy for the Livin by Mandiri virtual credit card to display and use the features easily according to your wishes?
5.	Can the Livin By Mandiri virtual credit card feature provide relevant information?

Source: (Research Result, 2025)

Table 12. Criteria Efficiency

Criteria				
STS	TS	N	S	SS
0	0	9	64	27
0	0	7	68	25
0	1	6	67	26
0	0	5	64	31
0	0	8	68	24

Source: (Research Result, 2025)

To measure customer satisfaction with the Efficiency variable in the virtual credit card feature, the Likert Scale formula was used with the following calculations:

$$RK = \frac{(1*0)+(2*1)+(3*35)+(4*331)+(5*133)}{500}$$

$$RK = \frac{2069}{500}$$

$$RK = 4.19$$

The average satisfaction level of customers in the Efficiency variable towards the Livin By Mandiri virtual credit card feature was calculated based on the results, leading to the conclusion that users of the Livin By Mandiri virtual credit card feature fall into the SATISFIED category.

The Service variable includes 5 questions formulated in the research questionnaire, and respondent answers can be seen in Tables 13 and 14.

Table 13. Service Question

No.	Information Question
1.	Can your experience of using the Livin by Mandiri virtual credit card feature service be studied and understood easily?
2.	The virtual credit card feature is accessible easily?
3.	The virtual credit card feature can provide services according to what is needed?
4.	You can easily resolve issues or submit complaints regarding features your virtual credit card?
5.	The Livin By Mandiri virtual credit card feature is very useful for you to carry out transactions or other things?

Source: (Research Result, 2025)

Table 14. Criteria Service

Criteria				
STS	TS	N	S	SS
0	2	2	72	24
0	1	8	58	33
0	1	11	60	28
0	0	7	69	24
0	0	5	64	31

Source: (Research Result, 2025)

To measure customer satisfaction with the Service variable in the virtual credit card feature, the Likert Scale formula was used with the following calculations:

$$RK = \frac{(1*0)+(2*1)+(3*33)+(4*323)+(5*140)}{500}$$

$$RK = \frac{2099}{500}$$

$$RK = 4.20$$

The average satisfaction level of customers in the Service variable towards the Livin By Mandiri virtual credit card feature was calculated based on the results, leading to the conclusion that users of the Livin By Mandiri virtual credit card feature fall into the VERY SATISFIED category.

#### G. Data Processing Analysis Result

The final results of the research are based on calculations of questionnaire data carried out with the aim of calculating customer satisfaction with the virtual credit card feature using the PIECES method. The final results of the research calculations can be

seen in Table 15.

Table 15. Results Based On Calculations Data			
No.	Variable	Score	Result
1.	Performance	4.20	Very Satisfied
2.	Information	4.15	Satisfied
3.	Economy	4.13	Satisfied
4.	Control	4.15	Satisfied
5.	Efficiency	4.19	Satisfied
6.	Service	4.20	Very Satisfied

Source: (Research Result, 2025)

The calculation of the research questionnaire data was done using the PIECES Method and the Likert Scale formula, resulting in the highest score for the Performance and Service variables at 4.20 and the lowest score for the Economy variable at 4.13. In this case, the overall score for the Performance and Service variables was categorized as Very Satisfied. Based on these calculations, it can be concluded that Livin By Mandiri virtual credit card users are Satisfied with all variables in the PIECES method.

In terms of performance and service variables, the virtual credit card feature in Livin' by Mandiri provides a user-friendly navigation system, whether for existing features or newly introduced ones, and delivers fast service in accordance with customer expectations. The economy variable is influenced by cost-related factors and the benefits received by users. The information variable provides clear and detailed additional information. The control variable ensures that customers feel more secure when conducting transactions using the virtual credit card feature. The efficiency variable accelerates transactions using the virtual credit card feature.

Comparing this study with previous research, such as "Analysis of User Satisfaction with the DANA E-Wallet Service Using the PIECES Method," similarities include evaluating customer satisfaction in digital financial services. However, the fundamental difference lies in the type of service offered. DANA E-Wallet focuses on daily transactions and ease of use, while the virtual credit card feature in Livin' by Mandiri emphasizes credit-based features and diverse online transaction experiences. Both studies use the PIECES method to evaluate various factors, but customer satisfaction is influenced by different aspects such as costs, usability, and economic benefits in each service.

## CONCLUSION

According to the research conducted on Customer Satisfaction Analysis of the Livin By Mandiri Virtual

Credit Card Feature Using the PIECES Method, it was concluded that among the subjects, who are users of the Livin By Mandiri virtual credit card feature, each variable received a satisfaction score. These include Very Satisfied for the Performance and Service variables with the highest satisfaction score among all other variables at 4.20. The other variables each received a score of Satisfied, with Information and Control achieving a score of 4.15, Efficiency received 4.19, and Economy had the smallest score among the variables at 4.13. Therefore, it can be concluded that customers are satisfied with the Livin By Mandiri virtual credit card feature, as indicated by the scores obtained for all variables in the study. For users of the Livin By Mandiri virtual credit card feature, this satisfaction score reflects their positive experience. By analyzing customer satisfaction using the PIECES method, Bank Mandiri can better understand customer needs and expectations, allowing for improvements in service quality and product offerings to better suit customer preferences, ultimately leading to an enhanced and more personalized banking experience.

## REFERENCE

- Asrulla, Risnita, Jailani, M. S., & Jeka, F. (2023). Populasi dan Sampling (Kuantitatif), Serta Pemilihan Informan Kunci (Kualitatif) dalam Pendekatan Praktis. *Jurnal Pendidikan Tambusai*, 7(3), 26320–26332.
- Dudiyanto, M., Manajemen, P., Ekonomi, F., & Naskah, I. (2021). Pertumbuhan Kartu Kredit Di Indonesia Dalam Pandemi Covid'19. *Jurnal Manajemen*, 11(1), 34–41. <https://doi.org/10.26460/jm.v11i1.2017>
- Haqqi, A. M. L., & Ilmi, M. K. (2023). Pengaruh Second Account Instagram Terhadap Self-Disclosure Mahasiswa Ilmu Komunikasi Angkatan 2022 Universitas Islam Negeri Sunan Ampel Surabaya. *UIN Sunan Ampel Surabaya, December*, 1–12.
- Hasibuan, R. M., Harahap, F., & Lubis, A. (2021). Pengaruh Kualitas Pelayanan Terhadap Kepuasan Pelanggan di Cafe Vanilla Panyabungan. *Jurnal Misi Institut Pendidikan Tapanuli Selatan (IPTS)*, 4(3), 175–182.
- Hermina, D., & Huda, N. (2024). Memahami Populasi dan Sampel: Pilar Utama dalam Penelitian Kuantitatif. 5(12), 5937–5948.
- Imtihan, I., Hasan, I., & Anisak, P. (2021). Analisis Faktor-Faktor yang Mempengaruhi Minat Nasabah dalam Menggunakan Kartu Kredit. *Jurnal Ecogen*, 4(2), 240. <https://doi.org/10.24036/jmpe.v4i2.11037>
- Isma, N., & Yusuf, M. (2025). *The Influence of the Implementation of Extracurricular Activities of*

- the Islamic Propagation Agency on the Practice of Religious Worship at Mutia Rahma Bulu Cina Middle School , Hamparan Perak District.* 5(1), 211–215.  
<https://doi.org/10.30596/jcositte.v1i1.xxxx>
- Kirana, C. A. D., & Harahap, A. S. (2022). Pendukung Keputusan dalam Penilaian Pegawai Pemerintah Non Pegawai Negeri menggunakan Metode Entropy. *JURIKOM (Jurnal Riset Komputer)*, 9(1), 159.  
<https://doi.org/10.30865/jurikom.v9i1.3846>
- Lalujan, V. V., & Rahardja, Y. (2023). Analisis Tingkat Kepuasan Pengguna Layanan E-Wallet DANA Menggunakan Metode PIECES. *Journal of Information Technology Ampera*, 4(3), 207–221.
- Loindong, A. S. G., Tewal, B., & Sendow, G. M. (2023). Pengaruh Locus of Control dan Motivasi Kerja Terhadap Kepuasan Kerja Pegawai di Era Pandemi Covid-19 (Studi Kasus di Kantor SatPol-PP Kota Tomohon). *Jurnal EMBA : Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, 11(4), 110–121.  
<https://doi.org/10.35794/emba.v11i4.51021>
- Maulidiah, E. P., Survival, S., & Budiantono, B. (2023). Pengaruh Fasilitas Terhadap Kualitas Pelayanan Serta Implikasinya Pada Kepuasan Pelanggan. *Jurnal Economina*, 2(3), 727–737.  
<https://doi.org/10.55681/economina.v2i3.375>
- Naibaho, A. B., Anggraini, D., & Wardijono, B. A. (2021). Pendahuluan Metode Penelitian Metode. *Jurnal Ilmiah KOMPUTASI*, 21(4), 319–330.
- Prawiyogi, A. G., Sadih, T. L., Purwanugraha, A., & Elisa, P. N. (2021). Penggunaan Media Big Book untuk Menumbuhkan Minat Membaca di Sekolah Dasar. *Jurnal Basicedu*, 5(1), 446–452.  
<https://doi.org/10.31004/basicedu.v5i1.787>
- Wandri, R., Nastasia, K., & Mariana, R. (2021). Optimisme Masa Depan pada Narapidana Kasus Pembunuhan ditinjau Berdasarkan Dukungan Sosial dari Keluarga di LAPAS Klas IIA Kota Padang. *Psyche 165 Journal*, 14(1), 113–120.  
<https://doi.org/10.35134/jpsy165.v14i1.102>
- Wibisono, E. A., Agustina, F., Arief, R., & Marleen, O. (2024). Analisis Tingkat Kepuasan Nasabah Fitur Sukha Pada Aplikasi Livin' by Mandiri Menggunakan Metode PIECES. *Smart Comp: Jurnalnya Orang Pintar Komputer*, 13(2), 235–246.  
<https://doi.org/10.30591/smartcomp.v13i2.5373>