

Analysis Of The Influence Of E-Trust And E Satisfaction On E-Loyalty And Switching Intentions On The Access By KAI Application Using The Structural Equation Modelling Method

Atikah Faiza¹, Ardi Kurniawan^{2*}, Elly Ana³

^{1,2,3,4}Department of Mathematics, Faculty of Science and Technology, Campus C, Airlangga University, Surabaya, Indonesia

*Corresponding Author: ardi-k@fst.unair.ac.id

Abstract: PT Kereta Api Indonesia (Persero) passengers. experienced an increase from January to June 2023 by 48% compared to January to June 2022. One of the causes of this increase is the ease of purchasing train ticket transportation services through Access by KAI which is Mobile application belonging to PT. Indonesian Railways (Persero). However, reviews from users of the Access by KAI application still provide low reviews and ratings. This happens because of several problems in the Access by KAI application, namely unclear price display and train class classification, difficulty in registering, difficulty in the ordering process, difficulty entering the application, the server often fails to be accessed, the application load is heavy, and it takes a long time. for a refund of canceled tickets. Therefore, to be able to evaluate services and increase the number of e-loyalty and intention to switch to Access by KAI, it is necessary to conduct research on analyzing the impact of the relationship between e-satisfaction and e-trust on e-loyalty and intention to switch using AMOS software (Analysis Moment of Structural) using the Structural Equation Modeling (SEM) method. The results of the analysis show that E-loyalty has a significant effect on E-Satisfaction, E-Loyalty has a significant effect on E-Trust, Switching Intentions have an insignificant effect on E-Satisfaction, Switching Intentions have an insignificant effect on E-Trust, Switching Intentions have an insignificant effect on E -Loyalty

Keywords— E-Trust, E-Satisfaction, E-Loyalty, Switching Intent, Structural Equation Modelling, Access by KAI

1. INTRODUCTION (Heading 1)

PT passengers. Kereta Api Indonesia (Persero) experienced an increase from January to June 2023 by 48% compared to January to June 2022 (data from the Central Bureau of Statistics, 2023) (1). One of the causes of this increase is the ease of purchasing train ticket transportation services through Access by KAI, which is PT's mobile application. Indonesian Railways (Persero) (Suwondo et al, 2017) (2). The Mobile Access application by KAI was published with the aim of making it easier and more comfortable for train customers (3). Access by KAI has several new features from the previous year's version, one of which is a trip planner feature in the form of travel recommendations to customers (Adi, 2023) (4). Some of the benefits of updating the Access by KAI version include ticket reservations, checking departure schedules, checking ticket rates, booking commuter tickets, Airport Trains, Jabodetabek LRT, gates with facial recognition, lodging reservations, credit, PLN, e-boarding passes and others (KAI, 2023) (5).

The latest data in August 2023 shows that the Access by KAI application has been downloaded by more than 10 million downloads with a rating of 2.3 from 182,000 reviews reviewing this application. However, reviews from users of the Access by KAI application still provide low reviews and

ratings. This happens because of several problems in the Access by KAI application, namely unclear price display and train class classification, difficulty in registering, difficulty in the ordering process, difficulty entering the application, the server often fails to be accessed, the application load is heavy, and it takes a long time. for refunds of canceled tickets (Hadyan, 2023) (6).

To support e-trust and e-satisfaction in the Access by KAI application, it is necessary to evaluate the quality of the application system with the aim of creating increased customer trust and satisfaction in repurchases (7) by Access by KAI customers. The creation of customer satisfaction is currently getting attention from PT. Kereta Api Indonesia considering that the publication of the Access by KAI update will only be implemented in August 2023, customers who are satisfied with the service are more likely to make repeat purchases from companies that have provided a sense of satisfaction when making purchases via the internet (Shankar et al., 2003) (8).

Therefore, to be able to evaluate services and increase the number of e-loyalty and intention to switch to Access by KAI, it is necessary to conduct research on analyzing the impact of the relationship between e-satisfaction and e-trust on e-loyalty and intention to switch using AMOS software (Analysis Moment of Structural) using the Structural Equation Modeling (SEM) method. The results of this analysis will be used as material for evaluating Access by KAI services to be able to

provide information about customer satisfaction and trust and to be able to find out the perspective of application usability which has an impact on customer repurchases so that the company can improve its business strategy and improve the Access by KAI application.

2. LITERATURE REVIEW

2.1 Data

The data used in this research is qualitative data consisting of the variables E-Satisfaction, E-Trust, E-Loyalty and intention to switch in the DAOP 7 Madiun area or operational area 7 Madiun with a total of 180 data. The data source for this research comes from questionnaire answers respondents who are in the DAOP 7 Madiun area in the months 1 August 2023-30 November 2023. The population used in this research are Access by KAI users who have become customers of the ticket purchasing service via the application at DAOP 7 Madiun and have purchased tickets once or more In the last 3 months. The sampling technique used in this research is purposive sampling, which is a type of sampling design that is based on certain considerations (judgmental sampling). Measuring the influence of E-Satisfaction and E-Trust on E-Loyalty and Switching Intentions on the Access by KAI application was carried out using the Structural equation modeling method using Amos 24 software. Sample analysis was carried out at stations within the 7 Madiun operational area, using questionnaires distributed to respondents who use Access by KAI.

2.2 Research variable

The variables used in this research consist of latent variables and indicator variables, with the main ones being the latent variables E-Satisfaction, E-Trust, E-Loyalty and switching intention and the second being the indicator variable. The indicator variables taken in this research are variables that include each latent variable, among others.

Table 1: Definition of Research Variables

No	Variabel	Definisi
1.	Exogenous latent variables	Exogenous variables are causal variables, variables that are not influenced by other variables (E-Satisfaction and E-Trust)
2.	Endogenous latent variables	Endogenous variables are variables that are explained by exogenous variables (E-Loyalty and Switching Intention)
3	Manifest Variables / Indicator Variables	In the questionnaire format, the manifest variables are question items for each hypothesized variable.

2.3 Measurement Model Analysis

2.3.1 Goodness of Fit Index (GFI)

GFI is a non-statistical measure whose value ranges from 0 (poorfit) to 1.0 (perfect fit). A high GFI value indicates a better fit value. It is recommended that the GFI value be above 90% as a good-fit measure. (9).

$$GFI = 1 - \left(\frac{T_m}{T_0}\right) \quad (1)$$

T_m = statistical value of the χ^2 test of the model being analyzed

T_0 = statistical value of the χ^2 test of the null model

2.3.2 Adjusted Goodness of Fit Index (AGFI)

It is a development of the GFI which is adjusted to the ratio of degree of freedom for the proposed model to the degree of freedom for the null model. The recommended value is ≥ 0.90 . (10).

$$AGFI = 1 - \left[\left(\frac{db_0}{db_m}\right)(1 - GFI)\right] = 1 - \left(\frac{T_m / db_m}{T_0 / db_0}\right) \quad (2)$$

With:

$$db_0 = \frac{(p + q)(p + q + 1)}{2}$$

$$db_m = \frac{(p + q)(p + q + 1)}{2} - t$$

2.3.3 Tucker-Lewis Index (TLI)

This measure incorporates a measure of parsimony into a comparison index between the proposed model and the null model. The TLI value ranges from 0 to 1.0. The recommended TLI value is ≥ 0.90 (10).

$$TLI = \frac{[(T_i) - (db_i / db_m) T_m]}{[T_i - db_i]} \quad (3)$$

With:

T_i = test statistical value χ^2 independent model

T_m = test statistical value χ^2 analyzed model

db_i = degrees of freedom for independent model testing

db_m = degree of freedom of the analyzed model test

2.3.4 Normed Fit Index (NFI)

NFI is a measure that improves the chi-square degree to a range between 0 (no fit) to 1 (perfect fit) (Bentler & Bonett, 1980). To obtain the NFI value, the formula can be used:

$$NFI = (\chi^2_{null} - \chi^2_{model}) / \chi^2_{null} \quad (4)$$

The model can be said to be quite fit if the NFI value is more than 0.5 (Schumacker, 2010) (10).

2.3.5 Comparative Fit Index (CFI)

Bentler (1990) added CFI as a comparative model, whose value can be calculated using the formula:

$$CFI = 1 - \frac{l_1}{l_2} \quad (5)$$

With:

$$l_1 = \max(l_h, 0) \text{ and } l_2 = \max(l_h, l_i, 0)$$

$$l_h = [(N - 1)F_h - df_h]$$

$$l_i = [(N - 1)F_i - df_i]$$

The CFI value will range from 0 to 1. The model can be said to be quite fit if the CFI value is more than 0.5 (Schumacker, 2010) (10).

. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any kind of pagination anywhere in the paper. Do not number text heads-the template will do that for you

2.3.6

2.4 STRUCTURAL EQUATION MODELLING (SEM)

SEM (Structural Equation Modeling) is an analytical method that combines two approaches from two different scientific disciplines, namely the econometric approach which focuses more on predictions, and the psychometric approach which is used to describe conceptual models with latent variables (variables that cannot be measured directly, but measured through the indicators). (Chin W. W., 1998). (12) This approach integrates measurement and structural model testing, allowing researchers to test measurement error as an integral part of SEM, while also conducting factor analysis and testing hypotheses simultaneously (Haryono, 2014). (13).

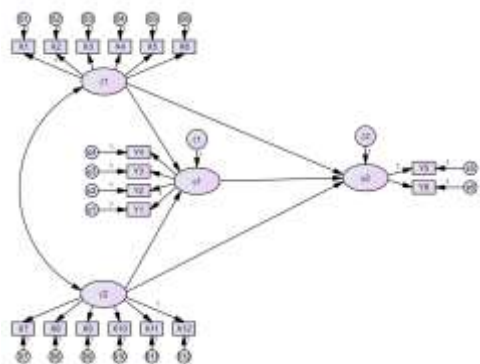
2.5 Analysis of Moment Structure (AMOS)

Amos is used to get stronger results on a statistical basis, because it can display information about model estimates and is more accurate for estimating models in testing theory (Jogiyanto, 2015). [14].Mjdheecie

2.6 Research Model

The design of the model adaptation used in this research is shown in the following figure:

Picture 1. Research Model



dengan:

η_1 is an endogenous latent variable, namely E-loyalty;

η_2 is an endogenous latent variable, namely Switching Intention;

ξ_1 is the first exogenous latent variable, namely: *E-Satisfaction*;

ξ_2 is the second exogenous latent variable, namely *E-Trust*;

$X_1, X_2, X_3, \dots, X_6$ are the indicators that form ξ_1 ;

X_7, X_8, \dots, X_{12} are the indicators that form ξ_2 ;

Y_1, Y_2, \dots, Y_4 are the indicators that form η_1 ;

Y_1, Y_2 are indicators that form η_2 ;

$\delta_1, \delta_2, \delta_3, \dots, \delta_{12}$ are measurement error variables from exogenous indicators;

$\epsilon_1, \epsilon_2, \dots, \epsilon_6$ are measurement error variables from endogenous indicators;

ζ_1 dan ζ_2 are the measurement error variables of the endogenous latent.

2.7 Hypothesis

H_1 : *E-Satisfaction* has a positive influence on *e-loyalty*

H_2 : *E-Trust* has a positive influence on *e-loyalty*

H_3 : *E-Satisfaction* has a positive influence on Switching Intention

H_4 : *E-Trust* has a positive influence on Switching Intentions

H_5 : *E-Loyalty* has a positive influence on Switching Intention

2.8 E-Satisfaction

E-satisfaction is a form of positive experience felt by users regarding the quality of services provided through electronic platforms in accordance with what users expect. User satisfaction is the main focus for companies or organizations in today's highly competitive market (Poliaková, 2010). (15). that is:

- 1) Access by KAI makes it easy to purchase tickets anywhere and anytime
- 2) Access by KAI has cheaper costs than other applications.
- 3) Access by KAI can save time when purchasing tickets.
- 4) Access by KAI provides rewards and discounts that are in line with user expectations.
- 5) My experience when using Access by KAI makes me satisfied with the Access by KAI ticket purchasing service.
- 6) My decision to buy tickets at Access by KAI was the right decision.

2.9 E-Trust

Trust can be defined as a person's willingness or willingness to depend on another party involved in a transaction because they have confidence in that other party (Dharmmesta, 1999) [16]. That is:

- 1) I trust the Access by KAI application because I know that no one can access my personal information and transactions.
- 2) I can track my purchase transactions on Access by KAI, making me trust Access by KAI services.
- 3) Access by KAI helps me by providing reliable services and products according to my wants and needs.
- 4) Access by KAI knows my rights as a consumer.
- 5) Access by KAI knows my privacy limits.
- 6) Access by KAI keeps my information safe from misuse.

2.10E-Loyalty

The difference between e-loyalty and loyalty is that e-loyalty focuses on online business as well as online consumer behavior that results in online repurchases (Bilgihan, 2016; Srinivasan et al., 2002) (17) Namely:

- 1) I will purchase tickets via Access by KAI in the future.
- 2) Access by KAI is my first choice when purchasing tickets.
- 3) Access by KAI is my favorite retail website for purchasing tickets.
- 4) I will recommend Access by KAI to my friends for ticket purchases.

2.11 Switching Intent

Switching intent is the possibility that a customer will move from Traveloka to another similar e-commerce platform. The indicators used to measure switching intentions according to Liang et al. (2018) [18] namely:

- 1) Have a desire to switch to another similar e-commerce platform.
- 2) Feel regret if you don't switch from Access by KAI to another similar e-commerce platform.

2.12 Research Analysis Steps

The analysis stages in this research can be carried out as follows:

1. Describe the characteristics of respondents based on the selected answers regarding factors that influence E-Trust, E-Satisfaction, E-Loyalty, and switching intentions.
2. Test the questionnaire using validity and reliability tests.
3. Describe respondents' answers to the variables E-Trust, E-Satisfaction and E-Loyalty and intention to switch.
4. Carry out Model Identification.
5. Carry out a degree of freedom test.
6. Test the suitability of the measurement model by looking at its validity and reliability. Evaluation of validity can be seen

from the standard factor loadings displayed in the Standardized Regression Weights column in AMOS. Meanwhile, reliability is seen from the construct reliability (CR) value.

7. Carry out a Structural model suitability test. By looking at the P-value in the Regression Weight Structural Model section.
8. Test the entire model using the goodness of fit criteria used, including testing the entire model, namely model fit, model comparison, and model parsimony. The model is said to be fit if the Default Model value for the CMIN, GFI, AGFI, and AIC criteria is between the Saturated Model and Independence Model values.
9. Develop recommendations from the results obtained from the analysis to improve Access by KAI services.

3. RESULTS AND DISCUSSION

3.1 Demographics

The majority of respondents were female at 68%. Meanwhile, 32% of respondents were male. Most respondents were aged 17 – 25 years with a percentage of 81%. The second most respondents were aged 26 – 40 years with a percentage of 11%. Meanwhile, respondents were at least 41-60 years old with a percentage of 8%. The largest number of respondents came from DAOP VII Madiun with 69%. Meanwhile, 31% of respondents came from outside DAOP VII Madiun. The highest frequency of application usage for respondents was 2-6 times with a percentage of 36%. The second largest number of respondents used the application 1-2 times with a percentage of 35%. The third largest number of respondents was 6-10 times with a percentage of 15% and the fewest respondents were more than 10 times with a percentage of 14%. Train passengers who have purchased and tried train ticket purchasing applications other than the Access by KAI application are 46%. Meanwhile, 54% of train users have never tried and bought train tickets other than the Access by KAI application.

3.2 Model Identification

Based on the picture, it can be seen that the degree of freedom (df) obtained is 138 and the positive value (>1) indicates that the model is overidentified and further analytical testing can be carried out and estimates and a solution to the structural equation can be identified.

3.3 Overall Model Fit

The following are the results of the Overall Model Fit test on the structure:

Tabel 2. Overall Model Fit model structural Absolute Fit Indices

<i>Overall Model Fit Measure</i>	<i>Indeks</i>	<i>Cut off</i>	<i>Information</i>
CMIN/DF	1,176	≤2	Fit

<i>Chi-square of estimate model</i>	95,29	< 0,50	No Fit
<i>Goodness of Index (GFI)</i>	0,93	≥ 0,90	Fit
<i>Adjusted Goodness of Index (AGFI)</i>	0,909	≥ 0,90	Fit

Tabel 6. Overall Model Fit model structural Model Comparison

Overall Model Fit Measure	Indeks	Cut off	Information
<i>Tucker-Lewis Index (TLI)</i>	0,978	≥ 0,95	Fit
<i>Comparative Fit Index (CFI)</i>	0,981	≥ 0,95	Fit

Tabel 7. Overall Model Fit model structural Model Parsimony

Overall Model Fit Measure	Indeks	Cut off	Information
<i>Parsimony Normed Fit Index (PNFI)</i>	0,981	≥ 0,90	Fit

Based on the results from Table 2, Table 3, Table 4, it can be seen that the Overall Model Fit value for the structural stage produces model criteria that can be said to be fit. According to Solimun (2002) (19), if there is at least one criterion that meets the Overall Model Fit criteria, then the model can be said to be good.

3.4 Overall Model Fit Test

Test the suitability of the entire model with 3 stages, namely absolute fit indices, baseline comparison model and parsimony model, which will then be discussed as follows:

Tabel 5. Model Absolute Fit Indices

Model	CMIN	RM R	GFI	AGF I	PGF I
<i>Default model</i>	95,29	0,017	0,93	0,909	0,717
<i>Saturated model</i>	0	0	1	-	-

<i>Independence model</i>	824,201	0,083	0,422	0,333	0,365
---------------------------	---------	-------	-------	-------	-------

Based on the output above, the CMIN default model value with a value of 95.290 is between the CMIN saturated model value with a value of 0.000 and the CMIN independence model value with a value of 824.201. This shows that the model fits. The RMR value of 0.017 is very small, close to 0, indicating that the model fits with sample covariance close to the estimated covariance. The GFI value is 0.930 and the AGFI value is 0.909 indicating that the model is fit.

Tabel 6. Model Baseline Comparisons

Model	NFI	TLI	CFI
	Delta1	rho2	
<i>Default model</i>	0,884	0,978	0,981
<i>Saturated model</i>	1	-	1
<i>Independence model</i>	0	0	0

The model is said to be fit if it meets the criteria for the TLI, NFI and CFI values, namely getting closer to the value of 1 (perfect fit). Based on the output above, the respective Normed Fit Index (NFI), Tucker Lewis Index (TLI), and Comparative Fit Index (CFI) values are 0.884; 0.978; and 0.981 which means that the model is fit.

Tabel 7. Model Parsimony Fit Indices

Model	PNFI
<i>Default model</i>	0,787
<i>Saturated model</i>	0
<i>Independence model</i>	0

Parsimonious Normal Fit Index (PNFI) is a modification of NFI. PNFI includes the number of dfs used to achieve the fit level. The higher the PNFI value, the better. From the output above, it can be seen that the PNFI value is 0.787, which indicates a parsimony model.

3.5 Hypothesis Testing the Effect of E-Trust and E-Satisfaction on E-Loyalty and Switching Intentions

Tabel 8. Hypothesis Testing

Hipotesis		S.E.	C.R.	P Value
E-Loyalty	← E-Satisfaction	0.107	5,429	***
E-Loyalty	← E-Trust	0.086	1.765	0.078

Niat Beralih	←	E-Satisfaction	0.429	- 0.295	0.768
Niat Beralih	←	E-Trust	0.189	1.352	0.176
Niat Beralih	←	E-Loyalty	0,577	- 0,400	0.689

In table 8 you can see the results of research hypothesis testing. Evaluation of the acceptance of the hypothesis is based on the p value, if the p value is less than 0.05 then the hypothesis is accepted. With a critical area p-value < 0.05. If the p-value is above 0.05 then the hypothesis is rejected. Based on the estimation results in Table 8 above, the following results are obtained:

1. E-loyalty has a significant effect on E-Satisfaction with a p value of 0.001 which is smaller than the research error level of 5%, thus the first hypothesis of this research can be accepted. This shows that increasing customer satisfaction or E-Satisfaction has a significant impact on increasing Access by KAI customer loyalty or E-Loyalty. The support of this hypothesis shows that respondents' satisfaction with the Access by KAI service has a big chance of making respondents continue to order train tickets on the Access by KAI application again, and vice versa. Acceptance of this hypothesis is in line with research by Butt and Aftab (2012) [20], which states that high satisfaction can increase high customer loyalty.
2. E-Loyalty has a significant effect on E-Trust with a p value of 0.001 which is smaller than the research error level of 5%, thus the second hypothesis of this study can be accepted. This shows that increasing customer trust or E-Trust has a significant impact on increasing Access by KAI customer loyalty or E-Loyalty. The support of this hypothesis shows that respondents' trust in the Access by KAI service has a big chance of making respondents continue to order train tickets on the Access by KAI application again, and vice versa. Acceptance of this hypothesis is in line with research by Butt and Aftab (2012) which states that high trust in the platform can increase high customer loyalty.
3. Switching Intention has no significant effect on E-Satisfaction with a p value of 0.768 which is greater than the research error level of 5%, thus the third hypothesis of this study cannot be accepted. This shows that increasing customer satisfaction or E-Satisfaction does not have a significant impact on Access by KAI customers' switching intentions. The support of this hypothesis can be shown through the phenomenon of variety seeking theory. Even though customers are satisfied with Access by KAI at this time, this does not mean they will not move platforms. Because each customer has a different level of variety seeking. Customers with a high level of variety seeking will make them explore purchases

and are not afraid to try new platforms so they can make the decision to switch.

4. Switching Intention has no significant effect on E-Trust with a p value of 0.176 which is greater than the research error level of 5%, thus the fourth hypothesis of this study cannot be accepted. This shows that increasing customer trust or E-Trust does not have a significant impact on increasing the intention to switch Access by KAI customers. The failure to support this hypothesis shows that the respondent's trust in the Access by KAI service has little chance of making the respondent have the desire to switch to another similar platform. Apart from that, the research also shows that the respondents' perception that Access by KAI is reliable and cares about their customers has no impact on the respondents' perception that they regret not switching from Access by KAI to another similar platform. The failure to accept this hypothesis is in line with the research results of Liang et al. (2018) [20] which states that high platform trust cannot increase high switching intentions.
5. Switching Intention has no significant effect on E-Loyalty with a p value of 0.689 which is greater than the research error level of 5%, thus the fifth hypothesis of this research cannot be accepted. This shows that increasing customer loyalty or E-Loyalty does not have a significant impact on increasing the intention to switch Access by KAI customers. The failure to support this hypothesis shows that respondents' loyalty to the Access by KAI service has little chance of making respondents want to switch to other similar platforms. Apart from that, the research also shows that the respondents' perception that Access by KAI is reliable and cares about their customers has no impact on the respondents' perception that they regret not switching from Access by KAI to another similar platform.

3.6 Results Recommendations

To increase user trust and security in Access by KAI, the quality of ticket purchase history can be improved by adding clarity on ticket purchases, information on how many loyalty points you get for each train trip, train activities and facilities during the trip, apart from that, it is necessary to make train specifications clear so that buyers can see details of the train to be purchased and increase user confidence and security in purchasing tickets as well as improving the Face Recognition facility, namely a boarding service facility equipped with a camera that functions to identify identity through the face which can make it easier for passengers not to need to issue personal identification to check tickets and send emails contains payment documents for ticket orders. With the trust and security that has been built into the Access by KAI application, users can continue to use the

application repeatedly, and with the satisfaction and trust that has been felt by users, users can make Access by KAI an application that will be used at another time and will recommend it. to other users.

Before you begin to format your paper, first write and save the content as a separate

4. CONCLUSION

The following are the conclusions from the results of the analysis and discussion of the research that has been carried out:

1. Based on descriptive analysis in the form of a pie chart, the results showed that most respondents were female with an age range of 17 – 25 years. Most respondents came from within DAOP 7 Madiun (including Madiun, Ngawi, Nganjuk, Kediri, Tulungagung, Blitar, and Jombang). Users use the Access by KAI application most often 2-6 times in the last 3 months. Most customers have never had the experience of trying a train ticket purchasing application other than Access by KAI. The superior functions of the Access by KAI service that are most felt by users are E-Boarding passes and ticket rescheduling.

2. The results of the analysis using the Structural Equation Modeling method, the AMOS approach, obtained the following results: E-loyalty has a significant effect on E-Satisfaction, E-Loyalty has a significant effect on E-Trust, Switching Intention has no significant effect on E-Satisfaction, Switching Intention has no effect significant effect on E-Trust, Switching Intention has no significant effect on E-Loyalty

3. Recommendations that can be proposed so that the KAI Access application can compete and continue to be used by its users are Access by KAI by adding a reminder feature for train departures that have been purchased, providing face recognition facilities at all stations in Indonesia and adding security with train ticket purchase history, clarify information about the train ticket to be purchased, add information about what facilities customers can enjoy while on the train and at the station, send an email containing payment documents for ticket orders, and provide information on how many loyalty points can be obtained for each ticket transaction in the Access application by KAI.

4.1 THANK-YOU NOTE

The author would like to thank the Central Statistics Agency, PT. KAI Persero, and the Head of DAOP 7 Madiun Station for allowing research data to be collected and Airlangga University Surabaya for providing facilities for writing this research.

5. REFERENCES

[1] Statistik, B. P. (2023, Agustus 30). Jumlah penumpang kereta api, 2021-2023 (ribu orang). Retrieved from Dadan Pusat Statistik:Maxwell, J. C. (1892). A Treatise

on Electricity and Magnetism, 3rd ed., vol. 2. Oxford: Clarendon, pp.68-73.

[2] KAI, P. (2023, agustus 31) . Official Mobile Application Kereta Api Indonesia. Retrieved from Kereta Api Indonesia: <http://apps.kereta-api.co.id/>.

[3] KAI, P. (2023, Agustus 31). Soft Launching Access by KAI, KAI Tingkatkan Fitur dan Layanan KAI Access: https://www.kai.id/information/full_news/5652-soft-launching-access-by-kai-kai-tingkatkan-fitur-dan-layanan-kai-access.

[4] Adi, B., Jatmiko & Ika Y. (2023, Agustus 30). Lengkap! Fitur Terbaru KAI Access Ini Mudahkan Pelanggan saat Bepergian Jauh Retrieved from Solo Pos: <https://bisnis.solopos.com/lengkap-fitur-terbaru-kai-access-ini-mudahkan-pelanggan-saat-bepergian-jauh-1724522>

[5] KAI, P. (2023, Agustus 31). Upgrade Aplikasi, KAI Lakukan Grand Launching Access: https://www.kai.id/information/full_news/5692-upgrade-aplikasi-kai-lakukan-grand-launching-access.

[6] D. Gusnita, “Pencemaran SMOG (Asap Kabut) Sebagai Dampak Aktivitas Antropogenik,” Berita Dirgantara, vol. 15, pp. 84-89, 2014.

[7] Hadyan, Rezha (2023, Agustus 31). Hari Pelanggan Nasional, PT KAI Justru Banjir Komplain, Kenapa? Retrieved from Bisnis.com: <https://ekonomi.bisnis.com/read/20200904/98/1287528/hari-pelanggan-nasional-pt-kai-justru-banjir-komplain-kenapa>.

[8] Y. T. Male, “Analisis Tingkat Pencemaran Gas CO, NO₂, Dan SO₂ pada Daerah Batu Merah Kota Ambon,” Akta Kimia Indonesia, vol. 6, pp. 58-68, 2021.

[9] Safa, N. S., & Solms, R. V. (2016). Customers repurchase intention formation in e- commerce. South African Journal of Information Management, 87-96.

[10] Shankar, V., Smith, A. K., & Rangaswamy, A. (2003). Customer Satisfaction and loyalty in online and offline environment. International Journal of research in marketing, 153-175.

[11] Hair Jr., J. F. et al. (1998). Multivariate Data Analysis with Readings. Englewood Cliffs, NJ: Prentice-Hall.

[12] Albertin Yunita Nawangsari (2011) STRUCTURAL EQUATION MODELING PADA PERHITUNGAN INDEKS KEPUASAN PELANGGAN DENGAN MENGGUNAKAN SOFTWARE AMOS. S1 thesis, UNY BMKG, “Monitoring Nitrogen Dioksida (NO₂) (April 2023),” Kualitas Udara, 12 April 2023.

[13] Ghozali, Imam. 2011. “Aplikasi Analisis Multivariate Dengan Program SPSS”.

[14] Semarang: Badan Penerbit Universitas Diponegoro.

[15] Chin, W. W. (1998). The partial least squares approach for structural equation modeling. Methodology for business and management. Modern methods for business research, 295-336.

- [16] Haryono, S. (2014). Mengenal Metode Structural Equation Modeling (SEM) untuk Penelitian Manajemen Menggunakan Amos 18. *Jurnal Ekonomi dan Bisnis STIE YPN*, 23-34.
- [17] Abdillah, Willy, dan Hartono, Jogiyanto. (2015). *Partial Least Square (PLS) Alternatif Structural Equation Modelling (SEM) dalam Penelitian Bisnis*. Yogyakarta: Penerbit ANDI.
- [18] Poliaková, A. (2010). *Application Of The Customer Satisfaction Index (Csi) To Transport Services*. Number Iv, Volume V.
- [19] Dharmmesta, Basu Swastha. (1999). *Loyalitas pelanggan: Sebuah Kajian Konseptual Sebagai Panduan bagi peneliti*. *Jurnal Ekonomi dan Bisnis Indonesia*, vol. 14, No. 3, 1999, hal. 73 – 88.
- [20] Bilgihan, A., et al. (2016). What keeps the mobile hotel booking users loyal? Investigating the roles of self-efficacy, compatibility, perceived ease of use, and perceived convenience. *International Journal of Information Management*.
- [21] Liang, L. J., Choi, H. C., & Joppe, M. 2018. Exploring The Relationship Between Satisfaction, Trust and Switching Intention, Repurchase Intention in The Context of Airbnb. *International Journal of Hospitality Management*, 69, 41-48.
- [22] Solimun. (2002). *Multivariate Analysis Structural Equation Modelling (SEM) Lisrel dan Amos*. Fakultas MIPA.
- [23] Shibgha, Haqqu (2019). *Pengaruh Kepuasan Terhadap Kepercayaan, Loyalitas Dan Niat Beralih (Studi Pada Traveloka)*. Skripsi. Tidak diterbitkan. Fakultas Sains dan Teknologi. Universitas Airlangga : Surabaya. Iolij