Influence of satisfaction and loyalty on Net Promoter Score (NPS) in academic libraries in Indonesia

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Abstract

Purpose – This study aims to determine the NPS score of state academic libraries users in Indonesia, the relationship between user loyalty and NPS scores and the relationship between user satisfaction with NPS.

Design/methodology/approach – The method used in this research is quantitative explanatory method, which surveyed the relationship between satisfaction, loyalty and NPS variables based on the development of previous studies and existing theories. The population in this study were students visiting the state university library in Surabaya, Indonesia, namely Library A, Library B, Library C and Library D. The total number of samples taken was 200 divided equally to each of the universities, with 50 respondents respectively. Data collection was done with a questionnaire.

Findings – The Result shows that NPS value for academic library in Indonesia was 8. (1) The probability value of satisfaction with NPS is 0.18 (greater than 0.01) so H1 is rejected, meaning that satisfaction has no significant effect on NPS, (2) The probability value of satisfaction with loyalty is < 0.01 so that H0 is accepted. This means that satisfaction has a significant effect on loyalty and (3) The probability value of loyalty to NPS is < 0.01 so that H0 is accepted. This indicates that loyalty has a significant effect on NPS.

Research limitations/implications – To get user satisfaction, libraries need to improve facilities and services in accordance with the characteristics and needs of users, so that user expectations will be met and achieve satisfaction. When user satisfaction has been fulfilled, user loyalty to library products will be formed, so the NPS score will increase which is manifested by users recommending the library to others. This research has limitations, namely that the object of research is only in public higher education centers, so for generalization it is necessary to add research objects such as private college libraries, public libraries or school libraries.

Originality/value – Research on loyalty by using NPS has not been done much especially in Indonesia. This study also examines the relationship between satisfaction and loyalty on NPS scores.

Keywords Net promoter score, NPS, Loyalty, Satisfaction, Academic library

Paper type Research paper

Background

NPS or *Net Promoter Score* is a loyalty measurement method used by profit and nonprofit organizations. NPS method can be said to be simple but can show accurate results related to organizational growth. NPS was first introduced by Reichheld (2003) in business to measure customers' willingness to recommend a product, service or company as a whole to their friends or colleagues. That way, NPS can help organizations in finding loyal users (Rajasekaran and Dinesh, 2018).

There are researches and literature on NPS methods that are used by profit organizations, while literature on NPS in non-profit organizations is still very lacking. Some public administration organizations use the NPS method to measure the loyalty of its users. The measurement of library user loyalty by the NPS method, especially in Indonesia, is still rarely discussed. Library user loyalty is measured by looking at the effect of service quality and satisfaction on user loyalty (Bakti and Sumaedi, 2013; Martensen and Gronholdt, 2003;

Helgesen and Nesset, 2011; Annamdevula and Bellamkonda, 2014). In the library world, the new NPS method was used in 2015 on a small scale by the Estonian National Library (Välbe, 2015, 2016), followed by the National Library of Finland in 2016 on a large scale (Laitinen, 2018), the Turkish National Library (Inal, 2018) and the latest survey in 2019 was carried out at the National Library of Finland (Laitinen, 2019). And now the NPS Method has been included in the ISO 21248: 2019 International Standard Information and documentation. Quality assessment for national libraries.

Objectives of the study

This study aims to determine: (1) The level of NPS scores by users of state university libraries in Indonesia; (2) The relationship between user loyalty and NPS scores; (3) The relationship of user satisfaction with NPS.

Literature review

Loyalty

The concept of loyalty in a library as a non-profit organization is also very interesting to discuss. Library users become a determinant of the survival of the library, hence, it is important for libraries to determine how to get new users and maintain old users. In this sophisticated era, libraries as institution of information face heavy competitors in providing information to users. For instance, Google and the Internet serve as a source of information that can be accessed every time, easily and quickly. Many research results show that users choose the Internet as the main and most preferred source of information compared to the library (Kumah, 2015; Alsarar and Goultepe, 2017; Anindita, 2018; Yebowaah, 2017; Ranaweera *et al.*, 2018). Google and the Internet are considered as a source of macro-information that displays for more information (Zimerman, 2012), since libraries are perceived to be lacking in providing information according to their needs (Rowlands *et al.*, 2008). Due to this perception, libraries must strive to maintain the declining loyalty of their users (Xu and Du, 2018). User loyalty is closely related to their experience while in the library. Therefore, user satisfaction when using services must be realized by the library (Xu and Du, 2018; Haruna *et al.*, 2017).

User satisfaction

Kotler and Keller (2008) define user satisfaction as the user's feeling toward the product they are using or the outcome of their expectations. In the library, users will feel satisfied if the services, facilities and library resources are in accordance with their initial expectations after they experience them (Larson and Owusu-Acheaw, 2012). And if they are satisfied when using the facilities and services in the library, then the user will recommend it to their friends (Motiang *et al.*, 2014). According to Zeithaml (1988), there are four factors that influence users' perceptions and expectations in using products or services, namely: (1) word-of-mouth communication, other people's perceptions of the product or service they will use, (2) individual characteristics and personal needs; (3) past experience in using products or services (2003, p. 162).

Net promoter score (NPS)

NPS is an effective method for measuring and controlling the level of customer satisfaction (Reichheld, 2011) and from a scale of 0–10 allows companies to take quick measurements of customer feelings and attitudes. NPS is done by asking one simple question "How likely are you to recommend [brand or company X] to friends or colleagues?" NPS measurements divide

the three user categories, namely detractors with a score of 1–6, passive with a score of 7–8 and a promoter with a score of 9–10 (Figure 1). Reichheld and Markey (2011) state that each group of customers shows different patterns of behavior and different responses to attitudes. NPS is also used to measure user attitudes and there is a probability of relationship between user satisfaction and NPS scores (Laitenen, 2019).

Promoters are people who respond with a score of 9–10 indicating that their lives have been enriched by their relationship with the company. They behave like loyal customers, usually making repeat purchases and giving the company a bigger share of their spending. They talk about the company to their friends and associates. Passives are the people who give the company a score of 7–8. They are satisfied, disloyal customers and they exhibit something very different from attitudes and behavior. They make a few leads and when they feel satisfied, it's probably quality and enthusiastic. If a competitor's discount or fancy ad catches their eye, they're more likely to buy. These are called passive groups, because they bring less energy to the company and cannot be counted as long-term assets. Detractors are the ones who score 6–0. Their scores indicate that their lives have been diminished by their relationship with the company. They are unhappy, dissatisfied, even disappointed by the brand or disappointed with the company's treatment. Usually they vilify the company to their friends and their peers (Reichheld, 2011)

Conceptual data model. Conceptual data models used in this study are shown in Figure 2

User satisfaction and NPS

It is widely known that providing quality service is an essential strategy for success in today's competitive environment. It does not stop there, the services provided must reach user satisfaction as a good response given by users. User satisfaction is shown with a happy and comfortable attitude after their needs and expectations are met for services in the form of products or services provided. When the user feels this satisfaction, the NPS score will also be high and vice versa. The framework notes that user satisfaction plays an important role in individual responses to NPS surveys (Gadkari, 2018). The results of the same study, when quality service that fosters user satisfaction will significantly increase the NPS score, Eger and Micik (2017) reveal that user satisfaction with frontline service quality in certain industries will increase NPS response from users. From this explanation, hypothesis 1 is proposed as follows:

H1. User satisfaction affects the NPS score.

User satisfaction and user loyalty

There are many studies that examine the effect of user satisfaction on user loyalty in profit and non-profit institutions. When the user feels satisfied, the user will be loyal to the
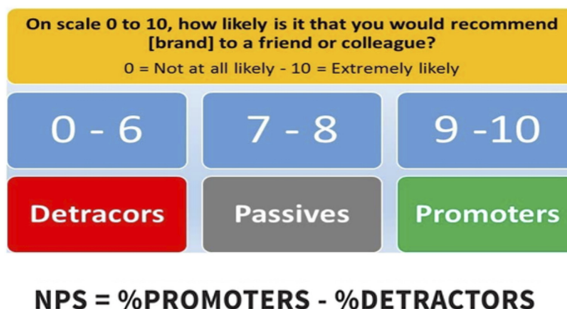

Figure 1.
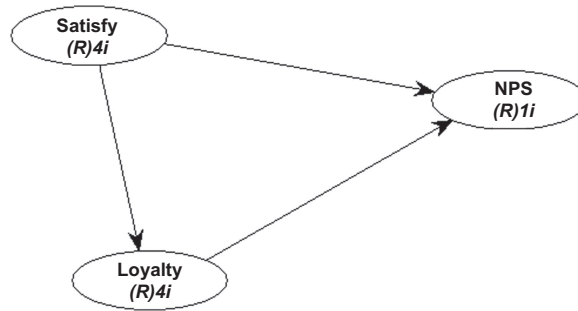Organization's NPS
score measuring
method

company, and vice versa. Matching user expectations will make them loyal to the company's products. In the library environment, when users feel satisfied with the services provided by the library, the user will be loyal to the library. Loyalty of library users is illustrated as the act of users who are willing to spend time, energy or even money to utilize the services provided by the library (Keshvari *et al.*, 2014). Meanwhile, according to Tajedini *et al.* (2019) loyalty of library users can be interpreted as a response to user behavior, such as revisiting the library and deciding to use the services provided, such as borrowing and returning books. Furthermore, loyalty is not only a matter of reusing it but also to recommend a library to those around the area (Bakti and Sumaedi, 2013). From this explanation, hypothesis 2 is proposed as follows:

H2. User satisfaction affects loyalty.

Loyalty and NPS score
The NPS is seen as the most effective measuring tool to determine user loyalty compared to other measuring devices, such as repeating purchases. A customer who is satisfied with a product or organization will provide recommendations to others (Reichheld, 2003). Before NPS as a new disruption of user loyalty measures, in measuring user loyalty a company used the concept of user loyalty. The process of forming user loyalty is preceded by the performance of the company that is able to meet user expectations, so that it will foster loyalty to users of the products or services offered by the company. From the loyalty behavior shown by users, this affects the NPS score to be higher as well (Gadkari, 2018). From this explanation, hypothesis 3 is proposed as follows:

H3. Loyalty affects the NPS score.

Research methods
This research is a quantitative study with a descriptive approach, aiming of describing the level of loyalty of university library users with NPS. The population in this study were students of college library users in Surabaya, namely Library A, Library B, Library C and Library D. The data were taken using purposive sample with the criteria of students who have been to the library and use existing facilities.

The sampling method used is a non-probability sampling method where all elements of the population do not necessarily have the same opportunity to be sampled. The technique is a purposive sampling technique with the criteria of students who have been to the library and use existing facilities. These two criteria are needed to ensure that the respondent knows how the college library they have. The number of samples used in this study is based on the

formula Roscoe (1982) which suggests that the appropriate sample size in the study is between 30 and 500. In this study, the number of samples used was 200 respondents who were divided equally into four college libraries so each is 50 respondents.

The data collection instrument used is a Googleform questionnaire that is distributed online through various social media. Data analysis is done statistically (quantitative) with the aim to test the hypotheses that have been applied using multiple regression analysis. Multiple regression is a statistical technique used to predict the variation of the dependent variable by regressing more than one independent variable on the dependent variable simultaneously. Multiple regression analysis in this study was conducted to test the effect of several independent variables on the dependent variable (which is an interval scale) simultaneously. Multiple regression analysis helps us to understand how much variation of the dependent variable can be explained by a number of predictors.

Descriptive data processing is done by creating categories or levels to determine the level of respondents' answers. The categories in this research are divided into three, namely high, medium and low. The method of division of categories is as follows:

$I = R/K = (5–1)/5 = 0.8$, where I: Interval R: Range K: Class

The levels or categories of respondents' answers are as follows:

Scale	Satisfaction	Loyalty
1–1.8	Extremely dissatisfied	Very disloyal
1.9–2.6	Dissatisfied	Disloyal
2.7–3.4	Neutral	Neutral
3.5–4.2	Satisfied	Loyal
4.3–5.0	Extremely satisfied	Very loyal

Data processing results
Most of the respondents in this study were female (67.5%) and 32.5% were male, whereas based on the knowledge group, the most were social majors of 58.5% while the remaining 41.5% of respondents came from the science major. Data on the distribution of sex and knowledge in this study can be seen in detail in the previous Table 1.

Table 2 shows the frequency of student arrivals at the library. From the existing data, it can be seen that students have not become a library as a place that can be used for discussion or learning space as seen in Table 3. In Table 3, students mostly use circulation services, borrowing or returning books. Reference services are the least used by students and reference services at one of the tertiary institutions in Indonesia are still not maximally used and are still limited to providing information about the location of the book copy (Maryulisman, 2016).

The level of student satisfaction at the University library in this study falls into the satisfied category with a value of 3.54 (Table 4), meaning that the perceived performance has exceeded what is expected by library users. Satisfaction with library facilities has the highest score among the others, namely 3.65. Facilities and equipment are one of the most important

University		Library A		Library B		Library C		Library D		Total	
		F	%	F	%	F	%	F	%	F	%
Sex	Female	30	60	41	82	35	70	29	58	135	67.5
	Male	20	40	9	18	15	30	21	42	65	32.5
Science	Majors	14	28	14	28	48	96	7	14	83	41.5
	Social majors	36	72	36	72	2	4	43	86	117	58.5

Table 1.
Student demographics
of state university
library users

components in the college library service process to facilitate an activity and smooth tasks, such as buildings and equipment (Rahayuningsih, 2007).

Table 4 above shows the results of the calculation of user satisfaction at a university library, with an average value of user satisfaction (3.54) being included in the category of satisfied. If seen in detail, the users of state university libraries are most satisfied with the facilities and then followed by the services given by the library. As for the collection and performance, the respondents gave neutral opinion. The university with the highest score of satisfaction level is Library B with a value of 3.86.

The loyalty of university library users can be seen in Table 5, where student loyalty is included in the loyal category, which means that students will reuse the library to meet their needs and will also provide recommendations to their friends. In Table 5 it can also be seen that the highest dimension of loyalty is to encourage their friends to use the library with a value of 3.58 (see Table 6).

The details on the NPS score of each university, according to gender and scientific family, can be seen in Table 7. From the data it can be seen that the highest NPS is library C with an NPS value of 50 where this value is far different from the average NPS value of the PTN library which is only 8. When compared with Table 4 about satisfaction and Table 5 about loyalty, the value of this NPS is not directly proportional to satisfaction and loyalty. The point is that in Tables 4 and 5 the colleges with the highest levels of satisfaction and loyalty are library B not C. According to

From Table 7 above, it can also be concluded that the NPS value of female respondents is higher at 18 while the NPS value of male respondents is −11, which means that female

	Just visited once	Every day	Weekly	Monthly	Four times a year	Once a year
Library A	7	2	15	17	4	5
Library B	6	0	15	18	6	5
Library C	7	2	18	10	7	6
Library D	6	0	26	13	2	0
Total	26	4	74	58	19	16

Table 2.
The frequency of university students coming to the library

University	References	On the spot reading	Book circulation	Wi-Fi	Discussion room
Library A	5	11	14	7	13
Library B	17	3	16	13	1
Library C	10	2	7	12	19
Library D	3	9	23	9	6
Total	35	25	60	41	39

Table 3.
Services and facilities used by university students

	Library A	Library B	Library C	Library D	Average	Note
Service	3.52	3.96	3.14	3.64	3.56	Satisfied
Data collection	3.28	3.74	3.12	3.76	3.47	Neutral
Facility	3.68	4.00	3.18	3.76	3.65	Satisfied
Performance	3.26	3.74	3.16	3.82	3.49	Neutral
Average	3.43	3.86	3.15	3.74	3.54	Satisfied
Note	neutral	Satisfied	neutral	Satisfied	Satisfied	

Table 4.
Level of satisfaction of state university library users

respondents tend to recommend the library to those around them. Whereas based on the university major, the respondents from the science major have a higher NPS value of 23 while respondents from social major have a low NPS value of −2. This shows that visitor from the science major are more satisfied with library services and actively recommend library services to the people around them compared to respondents from the social major.

Loyalty	Library A	Library B	Library C	Library D	Average	Note
Re-use	3.82	4.26	3.38	3.88	3.7	Loyal
Recommendation	3.36	3.96	3.32	3.96	3.47	Neutral
Encourage friends	3.38	3.94	3.26	3.74	3.58	Loyal
Prefer use library	3.00	3.68	3.08	3.44	3.3	Neutral
Average	3.39	3.96	3.26	3.76	3.59	Loyal
Note	Neutral	Loyal	Neutral	Loyal	Loyal	

Table 5.
Loyalty of state university library users

On a scale of 0 to 10, how likely is it that you would recommend your Library to a friend or colleague

0-6	7-8	9-10

Detractors	Passives	Promoters

42 (21%)   99 (49.5%)   59 (28.5%)
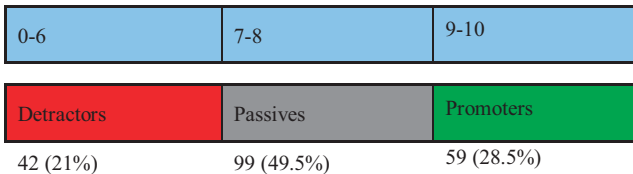
Total Respondents   200
University   Library
NPS   = % Promoters - % Detractors
    = 28.5 – 21
    = 7.5 = 8

Table 6.
Total NPS score of state university library

	Detractors (0–6)		Passive (7–8)		Promoters (9–10)		NPS value
	f	%	f	%	f	%	% Promoters – % detractors
State university							
Library A	25	50	19	38	6	12	−38
Library B	8	16	27	54	15	30	14
Library C	3	6	19	38	28	56	50
Library D	6	12	34	68	10	20	8
Sex Female	21	16	69	51	45	33	18
Male	21	32	30	46	14	22	−11
Type Majors	12	14	40	48	31	37	23
Social majors	30	16	59	50	28	24	2

Table 7.
Net promoter score for state university library

Validity and reliability of the data
Validity and reliability test is used to determine the relationship between latent variables with the indicators. From the test results, it can be taken that the data used is valid with a Convergent Validity value of more than 0.7 as shown in Table 8.

Reliability test. This test is used to determine the consistency of each variable. The tests aims to calculate the value of (1) Composite Reliability with a value of >0.7; (2) Average Variance Extracted (AVE) with a value of AVE > 0.5; and (3) Cronbach alpha value of >0.6. From Tables 9 and 10, it can be seen that the data used are relational.

Multiple linear regression test
Partial influence between Satisfaction Variables (X1), Loyalty (X2), Dummy Variables (Gender and Faculty) on NPS (Y) (see Table 11).

Based on the data above, from the results of multiple linear regression using SPSS 25, it is known that satisfaction (X1) has no effect on NPS (Y) because the significance value is $0.441 > 0.05$ or the t count is $0.773 < 1.65255$ (t table). Furthermore, it is known that Loyalty (X2) has an effect on NPS (Y) because the significance value is $0.000 < 0.05$ or the t value is $3.762 > 1.65255$ (t table).

For the dummy variable, it is known that Gender (Dummy1) has no effect on NPS (Y) because the significance value is $0.063 > 0.05$. Meanwhile, Faculty (Dummy2) has an effect on NPS (Y) because the significance value is $0.001 < 0.05$.

	Satisfy	Loyalty	NPS	Type	SE	p value
K1	(0.888)	−0.049	−0.033	Reflective	0.060	<0.001
K2	(0.881)	−0.119	−0.015	Reflective	0.060	<0.001
K3	(0.843)	0.119	−0.041	Reflective	0.060	<0.001
K4	(0.897)	−0.022	0.086	Reflective	0.060	<0.001
L1	−0.067	(0.871)	−0.154	Reflective	0.060	<0.001
L2	0.083	(0.921)	0.023	Reflective	0.060	<0.001
L3	0.122	(0.839)	0.091	Reflective	0.060	<0.001
L4	−0.142	(0.842)	0.044	Reflective	0.060	<0.001
NPS	0.000	0.000	(1.000)	Reflective	0.060	<0.001

Table 8. Test the validity with convergent validity

	Satisfy	Loyalty	NPS
Satisfy	(0.877)	0.705	0.270
Loyalty	0.705	(0.869)	0.375
NPS	0.270	0.375	(1.000)

Table 9. Correlations among I.vs with sq. rts. of AVEs

	Satisfy	Loyalty	NPS
R-squared		0.557	0.158
Adj. R-squared		0.554	0.150
Composite reliab	0.930	0.925	1.000
Cronbach's alpha	0.900	0.891	1.000

Table 10. Cronbach's alpha value

Based on the table data above, it is known that $X1$ does not have a direct effect on Y, so we are retested by means of $X1$ through $X2$ on Y. The test results are as follows in Tables 11–13.

In Tables 12–14 it can be seen that $x1$ through $x2$ has an influence on the NPS score, meaning that satisfaction will also have an effect on the NPS score but must be through user loyalty. Satisfied users will result in users being loyal and will increase the NPS value.

Figure 3 shows that the direct effect of $X1$ on Y is 0.070, while the indirect effect of $X1$ through $X2$ on Y is the multiplication of the beta value of $X1$ to $X2$ with the beta value of $X2$ and Y, namely: $0.703 \times 0.342 = 0.240426$. Then the total effect given by $X1$ to Y is the direct effect plus the indirect effect, namely $0.070 + 0.240426 = 0.310426$. Based on the results of the above calculations, it is known that the direct effect value is 0.070 and the indirect effect is 0.240426, which means that the value of the indirect effect is greater than the value of the direct effect. These results indicate that indirectly $X1$ through $X2$ has a significant effect on Y (see Table 15).

Coefficients[a]

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	6.305	0.708		8.904	0.000
	X1	0.038	0.049	0.070	0.773	0.441
	X2	0.179	0.048	0.342	3.762	0.000
	Dummy1	−0.466	0.249	−0.121	−1.873	0.063
	Dummy2	−0.816	0.238	−0.223	−3.429	0.001
Note(s): a. Dependent variable: Y						

Table 11.
Results of partial multiple linear regression for satisfaction ($X1$), loyalty ($X2$), dummy (gender and faculty) variables to NPS (Y)

Coefficients[a]

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	6.305	0.708		8.904	0.000
	X1	0.038	0.049	0.070	0.773	0.441
	X2	0.179	0.048	0.342	3.762	0.000
Note(s): a. Dependent variable: Y						

Table 12.
Results of multiple linear regression and path analysis between variable satisfaction ($X1$), loyalty ($X2$) to NPS (Y)

Coefficients[a]

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	4.120	0.756		5.449	0.000
	X1	0.721	0.052	0.703	13.923	0.000
Note(s): a. Dependent Variable: $X2$						

Table 13.
Results of multiple linear regression and path analysis between variable satisfaction ($X1$) and loyalty ($X2$)

Simultaneous influence between Satisfaction Variables ($X1$), Loyalty ($X2$) Dummy Variables (Gender and Faculty) on NPS (Y).

It is known from the data table above that the four variables, namely $X1$ (Satisfaction), $X2$ (Loyalty), Gender (Dummy1), Faculty (Dummy2) simultaneously affect Y (NPS), because the significance value is less than 0.05. Sig. Value $0.000 < 0.05$, or the calculated f value is greater than the f table value, f value $12.693 > 3.04$ (see Table 16).

Partial Influence of Satisfaction Variables ($X1$), Dummy Variables (Gender and Faculty) on Loyalty ($X2$).

Based on the data above, from the results of multiple linear regression using SPSS 25, it is known that Satisfaction ($X1$) has an effect on Loyalty ($X2$), because the significance value is $0.000 < 0.05$ or the t value is greater than the t table, t value $13.677 > 1.65255$. For the dummy variable, the two variables are declared to have no effect on Loyalty ($X2$) because it is known that the Gender significance value (Dummy1) is $0.018 > 0.05$, and the Faculty (Dummy2) significance value is $0.989 > 0.05$ (see Table 17).

Simultaneous influence between Satisfaction Variables ($X1$), Dummy Variables (Gender and Faculty) on Loyalty ($X2$)

It is known from the data table above that $X1$ (Satisfaction), Gender (Dummy1), Faculty (Dummy2) simultaneously affect Loyalty ($X2$), because the significance value is less than 0.05, namely $0.000 < 0.05$, or the calculated f value is greater than the f table value, namely $67.735 > 3.04$ (see Table 18).

Table 14.
Results of multiple linear regression and path analysis between variable loyalty ($X2$) to NPS (Y)

Coefficients[a]		Unstandardized coefficients		Standardized coefficients		
Model		B	Std. error	Beta	t	Sig.
1	(Constant)	4.663	0.509		9.169	0.000
	X2	0.198	0.034	0.378	5.746	0.000
Note(s): a. Dependent Variable: Y						

Figure 3.
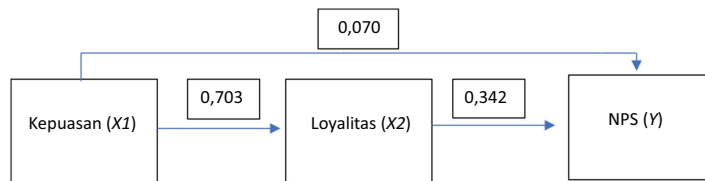Value of direct and indirect effect between variables

Table 15.
Simultaneous multiple linear regression test results for satisfaction ($X1$), loyalty ($X2$) dummy variables (gender and faculty) to NPS (Y)

ANOVA[a]						
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	133.862	4	33.466	12.693	0.000[b]
	Residual	514.133	195	2.637		
	Total	647.995	199			
Note(s): a. Dependent variable: Y						
b. Predictors: (Constant), Dummy2, Dummy1, X2, X1						

Partial Influence between Dummy Variables (Gender and Faculty) on Satisfaction Variables ($X1$)

Based on the data above, from the results of multiple linear regression using SPSS 25, it is known that Gender (Dummy1) has no effect on satisfaction ($X1$) because the significance value is greater than 0.05, namely 0.606 > 0.05. Meanwhile, Faculty (Dummy2) has an effect on satisfaction ($X1$) because the significance value is smaller than 0.05, namely 0.04 < 0.05 (see Table 19).

Coefficients[a]

Model		Unstandardized coefficients		Standardized coefficients			
		B	Std. error	Beta		t	Sig.
1	(Constant)	5.335	0.991			5.383	0.000
	X1	0.717	0.052	0.699		13.677	0.000
	Dummy1	−0.879	0.368	−0.120		−2.390	0.018
	Dummy2	0.005	0.357	0.001		0.014	0.989

Note(s): a. Dependent variable: $X2$

Table 16. Results of partial multiple linear regression between satisfaction variables ($X1$), dummy variables (gender and faculty) on loyalty ($X2$)

ANOVA[a]

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	1204.536	3	401.512	67.735	0.000[b]
	Residual	1161.819	196	5.928		
	Total	2366.355	199			

Note(s): a. Dependent Variable: $X2$
b. Predictors: (Constant), Dummy2, Dummy1, $X1$

Table 17. Simultaneous multiple linear regression test results between satisfaction variables ($X1$), dummy variables (gender and faculty) on loyalty ($X2$)

Coefficients[a]

Model		Unstandardized coefficients		Standardized coefficients			
		B	Std. error	Beta		t	Sig.
1	(Constant)	12.367	1.020			12.129	0.000
	Dummy1	−0.258	0.500	−0.036		−0.516	0.606
	Dummy2	1.382	0.475	0.203		2.908	0.004

Note(s): a. Dependent variable: $X1$

Table 18. Results of partial multiple linear regression between dummy variables (gender and faculty) on satisfaction variables ($X1$)

ANOVA[a]

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	94.945	2	47.473	4.332	0.014[b]
	Residual	2158.810	197	10.958		
	Total	2253.755	199			

Note(s): a. Dependent variable: $X1$
b. Predictors: (Constant), Dummy2, Dummy1

Table 19. Simultaneous multiple linear regression test results between dummy variables (gender and faculty) on satisfaction variables ($X1$)

Simultaneous influence between Dummy Variables (Gender and Faculty) on Satisfaction Variables ($X1$)

It is known from the data table above that Gender (Dummy1), Faculty (Dummy2) simultaneously / together has no effect on Satisfaction ($X1$), because the significance value is greater than 0.05, namely $0.014 < 0.05$, or the f value is more the value of the f table is $4.332 > 3.04$.

Discussion

The empirical results show that user satisfaction does not have a direct effect on NPS scores, while loyalty has a direct effect on NPS scores. When the path analysis test was carried out, it was found that satisfaction has an effect on the NPS score through loyalty, where the effect value is greater than the direct effect. In many studies it is known that satisfaction has a direct effect on loyalty (Srirahayu, 2020; Wantara, 2015). User satisfaction, both for product or service users, is equally influenced by persuasive communication and marketing communication, which means that positive requests and comments from users are very influential for other users (Simahate, 2015). Raphel *et al.* (2007) stated that when a person has a positive experience with a certain brand, it is more likely that he will repurchase when compared to competing brands. Consumers are considered satisfied if someone tends to continue to make purchases and notify other parties regarding their experience and customer dissatisfaction with services and facilities owned by the organization has a large potential as a trigger for visitors who comment negatively or even give bad recommendations to others (Asmara and Ratnasari, 2016). With the help of the NPS, companies will be able to track recommendation levels for services rendered and forecast tools to identify focus areas which will further help the company to increase its score. Reicheld (2011) in order for a company to have a high NPS value, the company must be able to increase the number of its promoters and reduce its decorators, by increasing the use of libraries. Users who make use of most of the products provided by the library usually have strong emotional bonds with other consumers so that they use the same products simultaneously (Zikmund, 2002). So that users want to take advantage of existing services or products in the library, it is necessary to improve the quality of existing products and services.

Conclusion and limitation

This study shows that the NPS score of state university libraries is 9 (0–100), meaning that there are still many students who are in the passive category, it is not clear whether they will provide recommendations to others or just remain silent and use the library passively. This can actually be seen from the loyalty of users from the recommendation dimension. Most of the respondents fall into the neutral category compared to the library revisit dimension. Students will continue to come again to the library, but not necessarily recommend it to their friends. Satisfaction has an indirect effect on NPS through loyalty. This means that satisfaction does not affect NPS, but it does affect loyalty, which loyalty has a significant effect on NPS. Thus, loyalty needs to be increased, this will cause user satisfaction to be indirectly improved. Satisfied users will increase their loyalty, which will eventually increase NPS promoter score.

From the research results that have been obtained, this study implies the results of the library that to get user satisfaction it is necessary to improve facilities and services that are in accordance with the characteristics and needs of users, so that user expectations will be met and achieve satisfaction. When user satisfaction has been fulfilled, user loyalty to library products will be formed, so the NPS score will increase which is manifested by users recommending the library to others. It should be remembered that the process of forming user

loyalty cannot be determined with certainty, some require a long time and some only take a short time, therefore libraries must pay attention to changes that occur both internally and externally. The limitation of this research is that it only uses academic libraries as research objects. Therefore, for further research, it can examine the level of loyalty in other types of libraries. For further research, it can also measure the level of loyalty of library users by comparing the results of measuring the level of loyalty with the concept of supporting the level of loyalty with the NPS score.

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