

ANALYSIS OF FACTORS INFLUENCING REPURCHASE DECISION OF FLIGHT TICKETS OF GARUDA INDONESIA AIRLINES USING BINARY LOGISTIC REGRESSION



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Abstract

The aviation industry in Indonesia is one of the sectors that has experienced rapid growth along with the increasing mobility of society and the need for air transportation. This study aims to analyze the factors that influence the decision to repurchase airline tickets at Garuda Indonesia Airlines using the Binary Logistic Regression method. The aviation industry in Indonesia, especially Garuda Indonesia Airlines, faces a major challenge in maintaining customer loyalty amidst tight market competition. Consumer decisions to repurchase airline tickets or make a repurchase are important indicators in determining the success of an airline's marketing and service strategy. This study uses a quantitative approach with a cross-sectional survey design, involving 197 respondents selected through a purposive sampling technique. Data were collected through a structured questionnaire that measured seven factors of service quality and customer satisfaction. The analysis was conducted using SPSS, and the results showed that of the various indicators tested, four factors had a significant influence on repurchase decisions. These factors are call center services, promotions through official websites, email blasting, and Garudamiles services. Call center service factors, promotions through websites and email blasting, and the existence of Garudamiles membership products tend to be important factors that influence repurchase decisions with an accuracy rate of 80.7%. These results provide insight for Garuda Indonesia to optimize marketing strategies to increase customer retention and profitability.

Keywords: Binary Logistic Regression, Repurchase Decision, Service Quality Factors, Digital Promotion, Garuda Indonesia

INTRODUCTION

Lately, world tourism has become a topic of conversation among many people, due to the emergence of many new tourist attractions, or tourist attractions that are still being developed so that many tourists want to see the development and want to visit them. International tourism records that there are 612 million tourist visits per year in the world (WTO, 1998). Actually, all tourist destinations and many companies engaged in tourism operating in the area trade with organizations or people from other countries. The many destinations competing in the world of tourism make Indonesia look more forward so that tourist visits in Indonesia continue to increase (Francois Vellas: 2008).

The aviation industry in Indonesia is one of the sectors that is experiencing rapid growth, along with the increasing mobility of society and the need for air transportation. In the face of increasingly tight competition, airlines must be able to understand customer needs and preferences in depth, as well as design targeted marketing strategies. One approach that can be used to formulate an effective marketing strategy is through STP (Segmentation, Targeting, Positioning) analysis, which allows companies to identify relevant market segments, select the most potential segments, and position themselves appropriately in the targeted market (Wurthmann, E., & Hoyt, L., 2017)

Garuda Indonesia, as the main national airline, has a big challenge in maintaining its market share amidst tight competition with other airlines, both domestic and international. Therefore, Garuda Indonesia needs to understand how to manage existing market segments, as well as determine the right targeting and positioning strategies to increase competitiveness, customer loyalty, and overall company performance (Lesmana, Rosa, & Susanti, Novia, 2018)

Garuda Indonesia is currently facing a major challenge in maintaining customer loyalty amidst increasingly tight market competition. Although the company is known for its higher punctuality (Figure 1) compared to major competitors such as Lion Group, Garuda must compete with Lion Group's larger passenger market share dominance. People often choose airlines based on various factors, including more affordable ticket prices, comfort, and flight frequency. This is a challenge for Garuda Indonesia to maintain its position as the

main choice among its loyal customers, although higher service quality and punctuality can be a competitive advantage that cannot be ignored.

**TINGKAT KETEPATAN WAKTU (ON TIME PERFORMANCE)
 BADAN USAHA ANGKUTAN UDARA NIAGA
 PENERBANGAN NIAGA BERJADWAL DALAM NEGERI**

NO	BADAN USAHA	2017	2018	2019	2020	2021	2022	2023
1	PT. Asijudjastuti	72,65%	61,07%	54,52%	28,90%	35,32%	39,92%	56,77%
2	PT. Batik Indonesia Air	88,66%	88,78%	88,72%	87,32%	84,75%	82,03%	74,89%
3	PT. Citilink Indonesia	88,33%	86,19%	92,41%	90,73%	65,90%	69,69%	86,12%
4	PT. Garuda Indonesia	88,53%	88,80%	91,38%	94,11%	92,80%	88,08%	87,78%
5	PT. Indonesia Airasia	75,94%	82,03%	85,26%	84,95%	75,34%	64,89%	65,71%
6	PT. Lion Mentari Airlines	71,32%	67,14%	77,90%	74,73%	75,48%	75,53%	65,43%
7	PT. Nam Air	92,62%	88,76%	81,42%	83,74%	77,74%	69,85%	72,11%
8	PT. Sriwijaya Air	88,75%	84,61%	82,76%	83,23%	72,38%	74,27%	79,67%
9	PT. Transnusa Aviation Mandiri	71,36%	91,81%	82,51%	77,94%	-	47,58%	50,48%
10	PT. Trigana Air Service	42,49%	52,78%	65,49%	50,67%	45,63%	46,34%	72,57%
11	PT. Wings Abadi Airlines	65,47%	65,39%	71,88%	71,29%	73,76%	76,05%	68,15%
12	PT. Super Air Jet	-	-	-	-	84,18%	80,08%	71,02%
13	PT. Pelita Air Indonesia	-	-	-	-	-	95,59%	90,30%
	Total	80,14%	78,60%	82,57%	81,76%	75,31%	76,02%	73,99%

* Sumber Data : Laporan Ketepatan Waktu (OTP) Badan Usaha Angkutan Udara Niaga Tahun 2023

Figure 1.

Air Transport Punctuality Level

Data shows (Figure 2) that in 2023, passengers transported for domestic flights amounted to 65,950,181 with the highest passenger market share dominated by the Lion group, which is 65% with acquisitions in each BUAAU, namely Lion at 28% followed by Batik at 16% Super Air Jet 16% and Wings Air at 5%. The domestic passenger market share in 2023 is still dominated by Lion Air with 27%, followed by Citilink with 17%, then Batik Air with 16%, then Super Air Jet at 16% and Garuda 10% completing the top five with market share.

MARKET SHARE PENUMPANG ANGKUTAN UDARA DALAM NEGERI

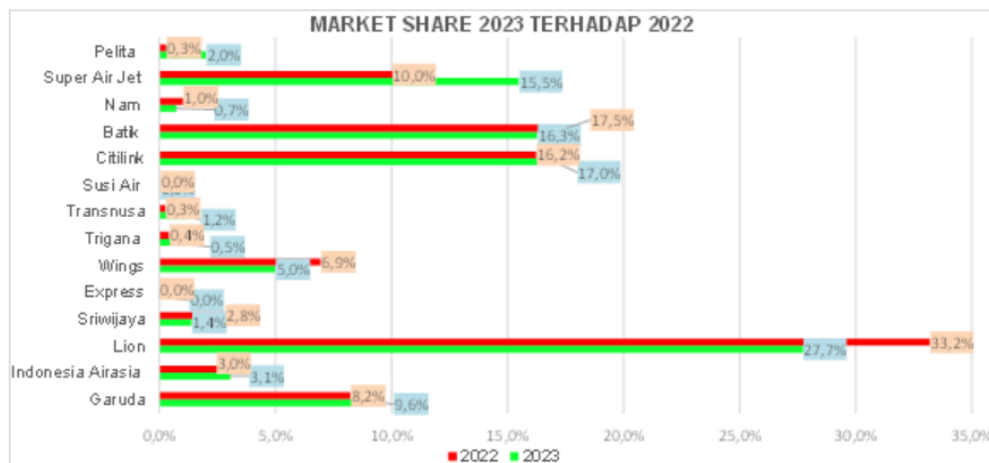


Figure 2.

Domestic Air Transport Passenger Market Share

Reported from the Garuda Indonesia website, the national airline Garuda Indonesia received recognition as the highest-ranking national transportation company in the Fortune Southeast Asia 500 2024 ranking list by occupying the 125th position for its consolidated business revenue achievement for the 2023 fiscal year of US\$2.94 billion or growing 40 percent compared to the previous year in the same period. This shows that the Garuda Indonesia airline has increased, with a large number of loyal passengers and new passengers trying to use this airline, but overall data shows that Garuda has not become the highest passenger market share. Another problem is the decline in Garuda airline ticket sales in 2023 compared to 2022, based on Garuda Indonesia's financial report (Table 1).

Table 1.
Garuda Indonesia's Revenue

Pendapatan diterima dimuka dalam USD	
2022	2023
232,439,248	194,393,702
<i>Sumber : CATATAN ATAS LAPORAN KEUANGAN KONSOLIDASIAN 31 DESEMBER 2023 DAN 2022</i>	

Based on the above phenomenon, it can be seen that the consumer's decision to buy another plane ticket or make a repurchase is an important indicator in determining the success of an airline's marketing and service strategy. In an effort to understand the factors that influence these decisions, it is important to identify the variables that significantly influence consumer behavior (Mulyani, RD, & Hananto, B., 2021).

The purchasing process by tourists has several factors to consider. Purchasing decisions, according to Kotler and Keller (2009), are one of the stages in the purchasing decision process where consumers actually make decisions to buy. The purchasing decision process is divided into five stages, namely problem recognition, information search, alternative evaluation, purchasing decisions, and post-purchase behavior (Armada et al, 2022). From this statement, it can be seen that it is important to create consumer purchasing decisions.

Decision making is the end of the process where consumers can solve problems and can buy the product. This is the last choice made to meet their needs and desires. Sangadji and Sopiah (2013:123) stated that consumer decision making is a problem-solving process

that is directed at targets. Consumer problem solving is actually a continuous flow of reciprocal actions between environmental factors, cognitive and affective processes, and behavioral actions (Rosyid et al, 2023). Mowen and Minor (2002), stated that consumer decision making includes all processes that consumers go through in recognizing problems, finding solutions, evaluating alternatives, and choosing between available purchasing options.

The decline in ticket sales has an impact on Garuda Indonesia's revenue, so this study was conducted to analyze the factors that influence the decision to repurchase airline tickets for Garuda Indonesia customers, so that it can be used as a reference to increase revenue. Based on the marketing mix theory, which includes product, price, promotion, place, people, process, and physical evidence, this study develops relevant indicators for each element in the marketing mix that can influence repurchase decisions. The analysis was conducted using the Binary Logistic Regression method, which allows researchers to identify the most significant factors in predicting consumer decisions.

RESEARCH METHOD

This study uses a quantitative approach with a cross-sectional survey design. The quantitative approach with a cross-sectional survey design was chosen because it allows researchers to observe the relationship between independent and dependent variables at a certain point in time. This provides a clear picture of the factors that influence Garuda Indonesia customers' repurchase decisions. By using a purposive sampling technique, researchers can ensure that the selected sample truly represents the population studied, namely customers who have flown at least once in the past year.

The population in this study was all Garuda Indonesia customers who had flown at least once in the past year. The sample was selected with inclusion criteria from customers who met the requirements, so that the selected sample could represent the population appropriately, and 197 respondents were obtained.

Data collection was conducted through a structured questionnaire designed to measure 16 indicators from 6 independent variables, namely Product (X1), People (X2), Process (X3), Physical Evidence (X4), Price (X5), and Promotion (X6) against the indicators

of the dependent variable, namely repurchase decisions (Y). This questionnaire was compiled based on the marketing mix theory and has been tested for validity and reliability before being used in the study. The questionnaire used includes questions that measure indicators of the independent variables. Each indicator is assessed using a dichotomous scale, which allows researchers to determine the influence of each indicator on repurchase decisions. The validity and reliability of the questionnaire have been tested before being used in the study, so that the data collected can be relied upon. The data that has been obtained is then processed into variable data with a value of 1 for "YES" and 0 for "NO" and will then be analyzed using the SPSS application with the binary logistic regression method.

Binary Logistic Regression is a statistical method used to measure the relationship between a binary dependent variable and one or more independent variables by providing results in the form of predicted probabilities of occurrence of one of the dependent variable categories (Kurniawan et al., 2024, #). This method was chosen because it is able to identify the most significant factors in predicting repurchase decisions. The analysis was carried out in two stages. The first stage involves all indicators of the independent variables, and the second stage only involves significant variables from the first stage to obtain a more accurate model.

Model evaluation is done using a classification table to measure the level of model accuracy, using a cut-off of $Y > 0.5$ for repurchase and $Y < 0.5$ for no repurchase. In this study, the Y value in the binary logistic regression method is calculated using a formula involving constants and coefficients of significant independent variables, with the formula:

$$y = \frac{1}{1 + \exp(-(C+B1X1)+(B2X2)+(B3X3)+(B4X4))}$$

Where (Y) is the repurchase decision as the dependent variable, and (X1), (X2), (X3), and (X4) are the independent variables that significantly affect the dependent variable. The value of each coefficient (β) can be found in column B of the SPSS processing results, which shows the influence of each independent variable on the repurchase decision.

RESULTS AND DISCUSSION

Data processing was carried out using the SPSS version 29 program with Binary Logistic Regression obtained from the results of a survey of 197 respondents. The independent variables (X) in this study were taken based on the variables in the Marketing Mix Theory, which were then developed into various indicators. The following are the indicators included in the independent variables.

Table 2.
Independent Variables in Research

Variables	Indicator
Products	Quality of food and beverages
	In-flight entertainment facilities
	Destination routes served
	Garudamiles
People	Flight attendant friendliness
	Ground handling officer services
	Call center officer service
Process	Ease of the check-in process
	Responsiveness of complaint handling
	Flight punctuality
Physical Evidence	Aircraft interior design
	Security
Price	Airline ticket prices
Promotion	Promotion via Instagram
	Promotion via email blasting
	Promotion through the official website

Furthermore, these variables are analyzed using the SPSS program with Binary Logistic Regression to see the possible significance of factors that influence the dependent

variable (Y), namely the repurchase decision. The results obtained from the analysis are as follows.

Table 3.
SPSS Binary Logistic Regression Step 1 Processing Results

		Variables in the Equation					
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	Kualitas makanan&minuman	0,150	0,590	0,064	1	0,800	1,162
	Fasilitas hiburan	0,639	0,530	1,455	1	0,228	1,895
	Rute penerbangan	-0,816	0,611	1,786	1	0,181	0,442
	Keramahan pramugara/pramugari	-0,024	0,685	0,001	1	0,973	0,977
	Pelayanan gorund handling	-0,354	0,640	0,305	1	0,580	0,702
	Pelayanan call center	1,714	0,572	8,972	1	0,003	5,550
	Proses check in	-0,139	0,798	0,030	1	0,862	0,870
	Responsivitas complain	0,313	0,719	0,190	1	0,663	1,368
	Ketepatan waktu	-1,613	0,938	2,956	1	0,086	0,199
	Desain interior	0,072	0,525	0,019	1	0,891	1,074
	Keamanan	-0,583	0,818	0,508	1	0,476	0,558
	Harga tiket	1,251	1,022	1,499	1	0,221	3,495
	Instagram	0,037	0,610	0,004	1	0,952	1,037
	Website	1,749	0,534	10,733	1	0,001	5,746
	Email blasting	1,053	0,531	3,929	1	0,047	2,867
	Garudamiles	1,465	0,565	6,720	1	0,010	4,326
Constant	-1,706	1,051	2,631	1	0,105	0,182	

Table 3 shows that from the indicators tested, there are 4 indicators with a value of < 0.05, which shows that the 4 indicators have a significant influence on repurchase decisions. Significant factors in terms of process are call center services (sig 0.003), while in terms of promotion are through official website channels (sig 0.001) and email blasting (sig 0.047). In terms of products, Garuda Miles' services have a significant influence on repurchase decisions with a significance value of 0.010.

The four variables are then reprocessed using SPSS Binary Logistic Regression analysis by removing other insignificant variables to see which variables are the most significant. The results of the analysis can be seen in Table 4 following.

Table 4.
SPSS Binary Logistic Regression Step 2 Processing Results

		Variables in the Equation					
		B	S.E.	Wald	df	Sig.	Exp(B)
Pelayanan call center		1,336	0,420	10,101	1	0,001	3,802
Website		1,487	0,439	11,471	1	0,001	4,424
Email blasting		0,951	0,460	4,280	1	0,039	2,589
Garudamiles		1,453	0,475	9,337	1	0,002	4,275
Constant		-2,284	0,451	25,647	1	0,000	0,102

Table 4 shows that the variables of call center service, promotion through website and email blasting, and Garudamiles show significant values because < 0.05 . This means that these variables influence the decision of Garuda Indonesia customers in making repeat purchases. The results of the values of these variables are continued with the calculation of proof with the constant Y. The value of each independent variable that will be used in the Y formula is the value in column B. Meanwhile, the Y formula that is meant as an example for the next calculation is as follows:

$$y = \frac{1}{1 + \exp^{-(C+B1X1)+(B2X2)+(B3X3)+(B4X4)}}$$

$$y = \frac{1}{1 + \exp^{(-(-2.284+1.336X1)+(1.487X2)+(0.951X3)+(1.453X4)}}$$

- Note: Y = Repurchase decision
 X1 = Call center service
 X2 = Promotion via website
 X3 = Promotion via email blasting
 X4 = Garudamiles

The next analysis continued with model evaluation using a classification table to measure the level of model accuracy. If using cut off $Y > 0.5$ for repurchase and $Y < 0.5$ not repurchase, then the model accuracy reaches 80.7% to predict Garuda Indonesia customer repurchase decisions.

Table 5.
Classification Table
Classification Table^a

			Predicted		Percentage Correct
			2nd purchase		
Observed		0	1		
Step 1	Repurchase	0	38	26	59,4
		1	12	121	91,0
Overall Percentage					80,7

a. The cut value is .500

The classification results in Table 5 show that based on the four factors, customers who were observed and predicted not to repurchase were 38 people, while customers who were observed and predicted to repurchase were 121 people, with an accuracy rate of 80.7%.

So it can be concluded that the decision to repurchase Garuda Indonesia flight tickets is influenced by call center service factors, promotions through websites and email blasting, and the existence of Garudamiles membership products with an accuracy rate of 80.7%.

Seeing these results, it is recommended for Garuda Indonesia to design a strategy to optimize these factors to increase customer interest in re-transacting which refers to increasing the company's profit. Here are some strategies that Garuda Indonesia can do to increase its customer retention:

1. In improving call center services, the marketing team can implement a CRM (customer relationship management) system to track interactions with customers, identify patterns, and provide more personalized service. This is certainly accompanied by intensive training for call center agents and establishing clear and consistent standard operating procedures (SOPs) accompanied by periodic performance evaluations.
2. Optimizing the official website by simplifying navigation, speeding up loading time, and ensuring an attractive website display accompanied by informative, interesting, and up-to-date content that can be accessed well on various devices (desktop, tablet, smartphone). In addition, it can also use personalization technology to display relevant offers for each customer.
3. Increase the effectiveness of email blasting by segmenting your customer database based on demographics, behavior, and preferences to send more relevant emails and using automation tools to send relevant emails at the right time, such as welcome emails, birthdays, or promotional alerts.
4. Strengthening the Garudamiles program by offering a variety of attractive benefits, such as ticket discounts, lounge access, and personalized gift exchanges that are tailored to each member's preferences and behavior. In addition, it can be done by increasing customer engagement by holding exclusive events, competitions, and other loyalty programs to increase member engagement.

CONCLUSION

By using the Binary Logistic Regression method, Garuda Indonesia airline can gain a better understanding of how various factors influence customers' decisions to make repeat

purchases. This allows for more data-driven decision making and more targeted marketing strategies, which can ultimately increase customer retention and company profitability. The influencing factors include in terms of the process, namely call center service (sig 0.003), in terms of promotion, namely through the official website channel (sig 0.001) and email blasting (sig 0.047), and in terms of product, namely Garuda Miles service (sig 0.010). After the calculation was carried out, it was seen that the customers who were observed and predicted not to make repeat purchases were 38 people, while the customers who were observed and predicted to make repeat purchases were 121 people, so that the accuracy of the resulting regression model was 80.7%.

Seeing these results, it is recommended for Garuda Indonesia to design a strategy to optimize these factors to increase customer interest in making repeat transactions which refers to increasing company profits. Strategies that can be done include improving call center services, optimizing official websites, increasing the effectiveness of email blasting, and strengthening the Garuda Miles program.

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