THE INFLUENCE OF THE EXTEND ADVANCE COST CALCULATION SCHEME ON THE REVENUE OF AERO SAM RATULANGI MANADO AIRPORT

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ABSTRACT

Airport services according to PM 36 of 2014 concerning Procedures and Procedures for Imposing Airport Service Tariffs are services provided to airport service users by public airport management units or airport business entities. To determine the effect of establishing an extend advance cost calculation scheme on aeronautical revenue at Sam Ratulangi Manado International Airport. To find out the commercial unit's perception of the determination of the extend advance cost calculation scheme.Quantitative method is a step taken by researchers whose purpose is to collect information or data and investigate the information obtained. The research method provides an overview of the research which includes the procedures and steps that must be taken, research time, data sources, and steps to obtain data which will then be processed and analyzed F test So, at a significance level of 5% it can be concluded that there is an effect of landing income, placement income, avio income, counter income, and PJP2U income on total revenue. T test So, at a significance level of 5% it can be concluded that there is no effect of PJP2U's income on total income.The perception of the commercial unit is that it increases fair to business for airlines to become more organized. If the X variable (calculation scheme), then the Y variable (Aero Revenue at Sam Ratulangi Airport) also increases fair to business for Sam Ratulangi Manado Airport airlines to become more organized. And it is important to continuously monitor and evaluate the effectiveness of the scheme to ensure consistency and optimal revenue management.

Keywords: Airport Service, Extend, Income

1. INTRODUCTION

In the current era of globalization, transportation is very important for the needs of society, especially in our country. Air transportation has become an alternative choice for people who used to view the general public in the use of air transportation. This can be seen from the increase in the number of flight frequencies at airports that provide domestic and international flights. Air transportation does have advantages in terms of time efficiency. So that the airport plays an important role in the provision of air transportation. [1]

Airport Services are services provided to users of airport services by public airport management units or airport business entities. These services are provided to aircraft, passengers, goods and post who are customers or users of airport services. However, the services provided are not free or free to use or in other words, there are tariffs or fees charged by the airport to customers or users of these services. One of the airport service rates is PJP4U or Aircraft Placement and Storage Landing Services (PM 36 of 2014 concerning Procedures and Procedures for Imposing Airport Service Tariffs) [2], [3], [4].

PJP4U is collecting data from Air Movement Control (AMC) in the form of flight hours and flight hours data, followed by matching the AMC data with the data contained in the SIOPKOM system, reconciling the data that has been obtained with the airline and the last stage is snooping the data. has been reconciled into the SAP system to issue invoices submitted to the financial division to be billed to the airline (PM 36 of 2014 concerning Procedures and Procedures for Imposing Airport Service Tariffs). [5], [6], [7], [8]

Schemes or schemata as a systemic organization provide mental images to individuals about objects in complex and sophisticated forms. Schemes/schemata become the basic building blocks of knowledge, values, attitudes, and individual actions towards objects, as well as a frame of reference for individuals in understanding, evaluating, behaving, and acting on objects (Pharisees, 2006). So it can be concluded that the scheme for aero revenue is a draft regulation of PT Angkasa Pura 1 for Aeronautics in carrying out their duties to make a good contribution and apply positive values to help organize and interpret information. [9], [10], [11], [12], [13]

Cost is an object that is processed by cost accounting to produce two interpretations, namely: broadly and narrowly. Broadly speaking, costs (expenses) are a form of sacrifice of economic resources, which are expressed in units of money, and have or have the potential to occur with a certain target. So, the interpretation of these costs contains 4 main components [14], namely:

1) Cost is a form of sacrifice of economic resources.
2) Expressed in units of money.
3) What has happened or is likely to happen.

The sacrifice has a specific target. In a narrow interpretation, costs are defined as a form of sacrifice of economic resources to acquire assets. Cost in this narrow sense is better known as cost. Costs will turn into expenses if the value of the goods or services has been received or has exhausted its value. [15], [16], [17], [18] However, if the value of the goods or services has not been exhausted then it is categorized as an asset.

Aeronautical revenue is sourced directly from the operation and landing of aircraft, passengers or cargo; which includes: a. Aviation Services (JP2) b. Aircraft Landing, Placement and Storage Services (JP4U) c. Air Passenger Services (JP2U) d. Use of aviobridge (via garbarata) From the aeronautical income there is a fee for PJP4U for the services provided, such as landing services, aircraft parking, and aircraft storage in the hangar. The amount of service fees varies for each airport depending on the category of the airport. [19]

Based on the description of the background of the problem above, the writer can formulate the existing problems, namely:
1. What is the effect of the extend advance cost calculation scheme on aero revenues at Sam Ratulangi Airport in Manado.
2. What is the perception of the commercial unit regarding the determination of the extend advance cost calculation scheme.

2.1 Research Design

The method used in analyzing for this Final Project research is quantitative. According to [20] quantitative research is research using information in the form of numbers where in this method authenticity is emphasized so that it is mandatory to go directly to the field in research.
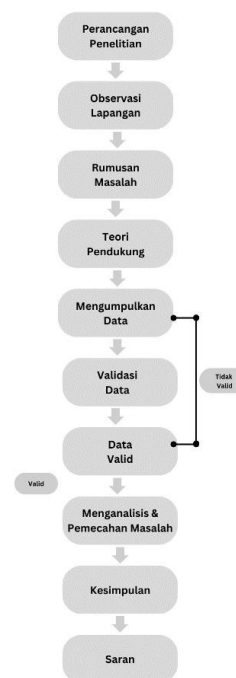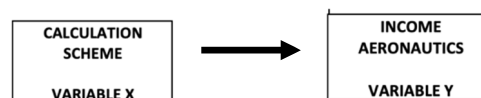

Figure 1. Research Flowchart

2.2 Research Variables

The research variable is anything in any form determined by the researcher to be studied so that information is obtained about it, then a conclusion is drawn, [21]

Figure 2. Research Variables

Information:

1) The independent variable in this study is the variable number of personnel as (Variable X).
2) The dependent variable in this study is operational control activities (Variable Y).

2.3 Population, Sample, and Research Object

1) Population
   According to Sugiyono, the population is a generalization area consisting of objects or subjects that have certain quantities and characteristics set by researchers to be studied and then conclusions drawn [22]. The population to be used as a source in this study were 17 commercial unit employees and 3 cargo unit employees at Sam Ratulangi Airport, Manado.
2) Sample
   According to Sugiyono, the sample is part of the number and characteristics of the population [22]. In this study, samples were taken to 17 commercial unit employees and 3

cargo unit employees at Sam Ratulangi Airport, Manado.

3) Object of research

According to Sugiyono, the object of research is the nature of people, objects or activities belonging to a certain type determined by the researcher, whose aim is to study it in order to draw conclusions [23]. In this study, the object of research to be taken is the scheme for calculating the cost of extend advance on aero revenues at Sam Ratulangi Airport, Manado.

2.4 Data Collection Techniques and Instruments

Study

Data collection techniques according to [22] can be carried out in various settings, sources and methods. When viewed from the settings, data can be collected in natural settings, in laboratories with experimental methods, at home with various respondents, at seminars, discussions, on the street and others. When viewed from the data source, data collection can use primary sources and secondary sources.

1) Primary data

Data that directly provides data to data collectors" [22]. The primary data in this study is the data generated directly from PT. Angkasa Pura I, this data is done by inputting aero income monthly data.

a. Interviews are conversations between researchers (someone who wants to get information) and informants (someone who is considered to have important information about one object) [24].

b. Observation is a data collection method used to collect research data through observation and sensing [25]. In this study the authors made direct observations in the field or On the Job Training (OJT) at the Commercial unit of Sam Ratulangi International Airport, Manado, from January 9 to March 31, 2023.

c. The documentation used in this research is a document on the scheme for calculating the cost of extend advance on aero revenues. The results of observational research and interviews will be more reliable if supported by a document.[26].

2) Secondary Data

According to [22], "secondary data is data obtained indirectly which provides data to data collectors, for example through other people or documents". The source of this data is obtained through literature study, literature study itself is a data collection technique by conducting a study of reviews of books, literature, notes, and reports that have something to do with the problem being solved. In this study, a literature study is used to solve problems regarding the scheme for calculating the extend

advance costs for aero revenues at Sam Ratulangi Airport, Manado.

a. Questionnaire

Questionnaire is a method that is carried out by providing recorded statements or questions to respondents in order to get answers to a problem in the form of opinions on various things about the object being studied, which in turn these answers can be in the form of data that will be collected in a questionnaire that can be assessed.

According to Sugiyono, the research instrument is a tool used for observed natural and social phenomena [21]. Specifically all of these phenomena are called research variables. The instrument that will be used in this study is electronic media in the form of a google form to collect questionnaire data and conduct interviews directly with informants. Researchers use this media because it can be done flexibly under any conditions, anytime, and anywhere so that it can make it easier for researchers and respondents.

In this study, researchers will use the Likert scale as a guideline score for assessing how much influence the extend advance cost calculation scheme has on aero revenues at Sam Ratulangi Manado airport. According to Sugiyono, the Likert scale is a measurement method used to measure attitudes, opinions and perceptions of a person or group of people about social phenomena [27] to other parts of the scale.

1. Primary Data

a. Interview guidelines

The interview guide is used to remind researchers about aspects that must be discussed as well as a checklist whether these relevant aspects have been discussed or asked, as follows:

Table 3.1 Interview guidelines

INTERVIEW GUIDELINES
THE EFFECT OF THE EXTEND ADVANCE COST CALCULATION SCHEME ON AERO'S REVENUE AT SAM RATULANGI AIRPORT, MANADO
A. Interview Schedule   1. Date, Day :   2. Start/end time :   **B. Informant Identity**   1. Gender :   2. Age :   3. Position :   **C. Research question**   1. What date will the regulation on the calculation of the extend advance cost to aero revenue be enforced?   2. Why is this extended advance cost calculation scheme regulation enacted now?

3. Broadly speaking, for this extend advance cost calculation scheme, does it go up?
4. Can the geographical location of Manado affect the regulation regarding the extend advance cost calculation scheme?
5. What formulas or components are used to find the extend advance cost calculation scheme?

Source: Processed by the Author

b. Observation sheet

The observation sheet is one of the instruments used to collect data when making observations or direct observations at Sam Ratulangi Airport, Manado.

Table 3.2 Observation sheet

No	Observation	Yes	No	Information
1.	Cost per Unit (Cost per Unit) is the total cost of providing each type of airport service divided by the total production during the period			
2.	Airport services are services for aircraft, passengers, goods and post which consist of provision and development			
3.	The rates for airport services as referred to below: • Aircraft landing service rates • Aircraft placement service rates • Aircraft storage service rates			
4.	The order of time and units of measure for aircraft landing services tariffs are: • The time unit is calculated for 1 (one) aircraft landing • Unit of measurement, calculated in tons according to the maximum take off weight (MTOW) of the aircraft based on the relevant aircraft certification documents			
5.	Order of time and unit of measure for aircraft passenger service fares: • unit of time is calculated 1 (one) time the process of air transport travel • The unit of measurement is per passenger departing for 1 (one) flight that has checked in			
6.	There is a new stipulation of an extend advance calculation scheme regulation for aero revenue to be fair to business			
7.	Geographical location in Sam Ratulangi affects the cost of the extend to aero revenue			
8,	The impact of the new regulation on the extend advance cost calculation scheme is a reduction in flight cargo			

No.	Statement			
9.	If there are 2 (two) or more different aircraft operators applying for an extension of operating hours at the same hour, an extend/advance fee will be charged			
10.	Aircraft that make landings or takeoffs outside operating hours are not only subject to an extend advance fee but are also subject to service fees			

Source: Processed by the Author

c. Document

Documentation is used in research to find historical evidence, legal basis, and regulations that have been in force before. The research subjects can be magazines, documents, books, meeting minutes, regulations, diaries, even historical inscriptions.

2. **Secondary Data**

a. **Questionnaire**

In this case the researcher distributed a questionnaire containing a list of statements related to the problem being researched to 17 commercial unit employees and 3 cargo unit employees at Sam Ratulan Airport, so that a total of 20 respondents. The researcher will use the Likert scale as a guideline score for assessing how much influence the extended advance cost calculation scheme has on the aero revenues of Sam Ratulangi Manado airport. According to Sugiyono, the Likert scale is a measurement method used to measure attitudes, opinions and perceptions of a person or group of people about social phenomena [27]. The rating system on a Likert scale can be seen in the following table.

Table 3.3 Likert scale

No	Symbol	Information	Score
1	SS	Strongly agree	5
2	S	Agree	4
3	N	Neutral	3
4	TS	Don't agree	2
5	STS	Totally disagree	1

The data from the calculation of the number of indices above is then entered into the table of percentage values, whether it is included in the strongly agree scale or to other parts of the scale.

Answer	Information
0% – 19.00%	Strongly (Disagree, Bad or Less)
20% – 39.99%	Disagree or Not Good
40% – 59.99%	Fair or Neutral
60% – 79.99%	Agree or Like
80% - 100%	Very (Agree, Good, Like)

Figure 4. Percentage of Value

2.5 DATA ANALYSIS TECHNIQUES

The approach in this study uses a quantitative approach. Quantitative analysis must assess the quality and reliability of the information obtained in this study [16]. In this study, the data used is sample data to be implemented in the SPSS application. The sample data can be obtained from the internet, books, other reference sources or can also be made by yourself. The data is then processed using the SPSS application to produce outputs in the form of Normality Test values and Regression Tests.

2.6 Location and Time of Research

1) Location

The research location is at Sam Ratulangi International Airport, Manado.

2) Research time

Research time starts at the time of doing *On the Job Training* in January 2023 to March 2023 and continued with this Final Project research until July 2023.

No.	Activity	Month						
		Jan	Feb	Mar	Apr	Mei	Jun	Jul
1.	*On The Job Training*	■	■	■				
2.	Data Collection	■						
3.	Proposak Seminars	■						
4.	Data Processing and Writing Final Project			■	■	■	■	
5.	Final Project Session							■

Research Time Image

3. RESULTS AND DISCUSSION

3.1 Research Results

The data used in this study are primary and secondary data. The primary data in this study were obtained by means of pre-test and post-test from data on the determination of the regulations for the extend advance cost calculation scheme. Secondary data was obtained by carrying out questionnaires and observations to obtain data regarding the effect of the Extend Advance Fee Calculation Scheme on Aero Revenue at Sam Ratulangi Airport, Manado.

The following is the income for each production in the extend advance cost calculation scheme

Table 4.1 Landing Production Costs

No.	Month	Landing Production	Income
1	May 2022	3,562	20,590,002
2	June 2022	4,673	27,104,595
3	July 2022	4,986	28,938,762
4	August 2022	4,825	27,104,595
5	September 2022	4,668	27,062,660
6	October 2022	4,767	27,487,292
7	November 2022	4,893	28,346,258
8	December 2022	6,064	35,309,365
9	January 2023	4,895	28,100,417
10	February 2023	4,655	27,156,312
11	March 2023	3,562	20,590,022
12	April 2023	4,673	27,104,595

Source: Processed by the Author

Table 4.2 Placement Production Cost

No	Month	Placement Production	Income
1	May 2022	24	8,323,056
2	June 2022	108	4,991,000
3	July 2022	158	8,068,032
4	August 2022	133	5,285,952
5	September 2022	83	4,981,984
6	October 2022	189	9,954,952
7	November 2022	143	7,362,208
8	December 2022	2080	64,168,160
9	January 2023	717	24,090,752

10	February 2023	158	6,183,688
11	March 2023	211	8,323,056
12	April 2023	108	4,991,000

Source: Processed by the Author

Table 4.3 Avio Production Costs

No	Month	Avio production	Income
1	May 2022	16	4,877,468
2	June 2022	20	6,163,268
3	July 2022	14	4,534,588
4	August 2022	20	6,086,120
5	September 2022	16	4,834,608
6	October 2022	16	4,934,608
7	November 2022	20	6,128,980
8	December 2022	24	7,414,780
9	January 2023	24	7,251,912
10	February 2023	16	5,006,048
11	March 2023	16	4,877,468
12	April 2023	20	6,163,268

Source: Processed by the Author

Table 4.4 Counter Production Cost

No	Month	Production Counters	Income
1	May 2022	279	1,089,495
2	June 2022	486	1,897,830
3	July 2022	514	2007170
4	August 2022	350	1,366,750
5	September 2022	349	1,362,845
6	October 2022	293	1,144,165
7	November 2022	363	1,417,515

No	Month		Income
8	December 2022	371	1,448,755
9	January 2023	726	2,835,030
10	February 2023	336	1,312,080
11	March 2023	279	1,089,495
12	April 2023	468	1,897,830

Source: Processed by the Author

Table 4.5 PJP2U Production Costs

No	Month	Production PJP2U	Income
1	May 2022	279	16,740,000
2	June 2022	486	29,160,000
3	July 2022	514	40,864,560
4	August 2022	350	35,742,000
5	September 2022	349	35,639,880
6	October 2022	293	29,921,160
7	November 2022	363	37,069,560
8	December 2022	371	37,886,520
9	January 2023	726	74139120
10	February 2023	336	20,160,000
11	March 2023	279	16,740,000
12	April 2023	468	29,160,000

Source: Processed by the Author

3.1.1 Effect of the Extend Cost Calculation Scheme Advance Against Aero Revenue

3.1.1.1 Normality test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		16
Normal Parameters[a,b]	Mean	0
	Std. Deviation	17913595.51
Most Extreme Differences	Absolute	0.102
	Positive	0.102
	Negative	-0.084
Test Statistic		0.102
Asymp. Sig. (2-tailed)		.200[c,d]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Source: SPSS Output 25

The normality test was carried out to find out whether the data used was normally distributed or not. The test tool used in the normality test of this study is the Kolmogorov Smirnov test with the SPSS program. The data can be said to be normal when the significance is > 0.05. The results of the normality test in the table above show that the significance value = 0.200 (> 0.05), so it can be concluded that all variables in this data are normally distributed.

3.1.1.2 Test F

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.026	5	0.405	5.239	.013[b]
	Residual	0.774	10	0.077		
	Total	2.8	15			
a. Dependent Variable: Total Pendapatan						
b. Predictors: (Constant), Pendapatan PJP2U, Pendapatan Penempatan, Pendapatan Counter, Pendapatan Pendaratan, Pendapatan Avio						

Source: SPSS Output 25

The table above shows the results of the influence of the five variables X on Y, namely the effect of landing income, placement income, avio income, counter income, and PJP2U income on total income based on the F test or together (simultaneously). Obtained that value $F_{hitung} = 5,239 > F_{tabel\ 0.05(5,10)} = 3,33$ and p-value $= 0.013 < 0.05$ then rejected. So, at a significance level of 5% it can be concluded that H_0 There is the effect of landing income, placement income, avio income, counter income, and PJP2U income on total revenue.

3.1.1.3 Test

Coefficients^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-29.057	12.429		-2.338	0.041
Pendapatan Pendaratan	2.85	0.812	0.828	3.51	0.006
Pendapatan Penempatan	-0.045	0.126	-0.072	-0.354	0.731
1 Pendapatan Avio	0.17	0.653	0.064	0.26	0.8
Pendapatan Counter	-0.326	0.314	-0.248	-1.039	0.323
Pendapatan PJP2U	0.12	0.311	0.111	0.388	0.706
a. Dependent Variable: Total Pendapatan					

Source: SPSS Output 25

The table above shows the results of the influence of variable X on Y, namely the effect of landing income, placement income, avio income, counter income, and PJP2U income on total income based on the t or partial test. In the landing income variable (X1), it is found that the value $t_{hitung} = 3,510 > t_{tabel\ 0.025(10)} = 2,22814$ and p-value = 0.006 < 0.05then rejected. So, at a significance level of 5% it can be concluded thatH_0There isthe effect of landing income on total revenue. In the placement income variable (X2), it is found that the value$t_{hitung} = -0,354 < t_{tabel\ 0.025(10)} = 2,22814$and p-value = 0.731> 0.05then accepted. So, at the 5% significance level it can be concluded that noH_0there is influenceplacement income to total revenue.In the avio income variable (X3), it is found that the value$t_{hitung} = 0,260 < t_{tabel\ 0.025(10)} = 2,22814$and p-value = 0.800 > 0.05then accepted. So, at the 5% significance level it can be concluded that noH_0there is influenceavio's revenue to total revenue.In the counter income variable (X4), it is found that the value $t_{hitung} = -1,039 < t_{tabel\ 0.025(10)} = 2,22814$and p-value = 0.323 > 0.05then accepted. So, at the 5% significance level it can be concluded that noH_0there is influencecounter revenue to total revenue. Andon the PJP2U income variable (X5), it is found that the value $t_{hitung} = 0,388 < t_{tabel\ 0.025(10)} = 2,22814$and p-value = 0.706 > 0.05then accepted. So, at the 5% significance level it can be concluded that noH_0there is influencePJP2U revenue to total revenue.

3.1.2 Commercial Unit Perceptions of Determination Scheme of Calculation of Extend Advance Costs

The following is data regarding the value of Variable X (calculation scheme) and Variable Y (Aero Revenue at Sam Ratulangi Airport) obtained from calculations using a Likert scale, as in table 4.11 below:

Table 4.6Score Summary

Variabel X	94	91	91	94	92
Variabel Y	91	93	91	89	90

Next, we must first look for the rank correlation by making it as shown in table 4.12 as follows:

Table 4.7Correlation Ranking

X	Y	Ranking X	Ranking Y	d	Dn 2
94	93	1	1	0	0
91	89	4	5	-1	1
91	90	5	4	1	1
94	91	2	2	0	0
92	91	3	3	0	0
Jumlah					2

Source: Processed by the Author

$$r_s = 1 - \frac{6\sum d^2}{n(n^2-1)}$$

$$= 1 - \frac{6.2}{5(5^2-1)}$$

$$= 1 - \frac{12}{5(24)}$$

$$= 1 - \frac{12}{120}$$

$$= 1 - 0,1$$
$$= 0,9 \text{ (Korelasi yang Kuat Sekali)}$$

Keterangan: 0,70 < KK < 1,00, korelasi yang sangat tinggi, kuat sekali, dapat diandalkan.

Description: 0.70 < KK < 1.00, very high correlation, very strong, reliable. The table above shows the results of the influence of the five variables X on Y, namely the effect of landing income, placement income, avio income,

4. CLOSING

In this section, the author briefly explains the conclusions of the development research results that have been carried out.

4.1 Conclusion
4.1.1 There is an Influence of the Cost Calculation Scheme
1. Hypothesis Test (Test F)
Based on the results of the hypothesis test (F test) conducted, it can be concluded that there is a significant influence between the five X variables (landing income, placement income, avio income, counter income, and PJP2U income) on variable Y (total income). This is reinforced by the fact that the calculated F value (5.239) is greater than the F table value (3.33) at the 5% significance level. In addition, the p-value (0.013) which is smaller than the significance level (0.05) also indicates rejection of the null hypothesis (H0). Therefore, the conclusion that can be drawn is that the variables landing income, placement income, avio income, counter income, and PJP2U income together affect total revenue.

2. Hypothesis Test (t test)

Based on the results of the t or partial test conducted on the effect of variable X on Y, the following conclusions can be drawn:

1) Landing income variable (X1) has a significant influence on total income. This is supported by the calculated t value which is greater than the t table value at a significance level of 5% and the p-value which is smaller than 0.05. Therefore, the null hypothesis (H0) can be rejected, and it can be concluded that landing income has an effect on total income.

2) The variable placement income (X2), avio income (X3), counter income (X4), and PJP2U income (X5) have no significant effect on total income. This can be seen from the calculated t value which is smaller than the t table value at a significance level of 5%, and the p-value is greater than 0.05. Therefore, the null hypothesis (H0) is accepted, and it can be concluded that placement income, avio income, counter income, and PJP2U income do not have a significant effect on total income.

Thus, in the effect of variable X on Y, only landing income significantly affects total income, while other variables do not have a significant effect.

4.1.2 Commercial Unit Perceptions of Determination Scheme of Calculation of Extend Advance Costs

It should be noted that this conclusion is based on the information provided about the effectiveness of Aero's revenue calculation scheme for a certain period. It is important to continuously monitor and evaluate the effectiveness of the scheme to ensure consistency and optimal revenue management

4.2 Suggestions

1) Re-evaluate the costing scheme: First of all, it is important to carry out an in-depth evaluation of the Extend Advance costing scheme used. Make sure that the scheme is fair and doesn't put too much weight on Aero. Review the factors used in costing and ensure that they reflect the actual conditions and needs of the company.

2) Optimize the use of Extend Advance: If the Extend Advance scheme has a negative impact on Aero's revenue, consider optimizing its use. Identify specific situations or conditions where Extend Advance could provide greater benefits to the company. For example, if a client frequently extends delivery times, but delivers a large number of orders, then this extension can be offset by the benefits of high order volume.

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