



Analysis of Perishable Vendor Selection to Fulfill the Need of Production Department

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Abstrak

Tujuan: Penelitian ini bertujuan untuk mengetahui kriteria utama dalam pemilihan vendor perishable untuk kebutuhan bagian produksi di PT. Aerofood ACS, Denpasar.

Desain/metodologi/pendekatan: Penelitian ini merupakan penelitian kuantitatif dan kualitatif dengan data primer dikumpulkan melalui wawancara, kuesioner, observasi, dan studi dokumen. Penelitian ini menggunakan metode proportional random sampling dengan jumlah sampel 30 responden.

Temuan: Kriteria utama yang dipertimbangkan dalam pemilihan *vendor perishable* untuk memenuhi kebutuhan departemen produksi adalah kriteria akurasi kuantitas dengan rata-rata sebesar 4,90 yang berada pada interval sangat baik.

Implikasi: Kriteria terakhir adalah kriteria ketepatan pengiriman, pelayanan, kualitas, dan yang terakhir adalah harga.

Kata Kunci: kriteria pemilihan pemasok, perishable vendor, departemen produksi.

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Abstract

Purpose: This research aims to know the main criteria in selecting perishable vendors for the production department needs at PT. Aerofood ACS, Denpasar.

Design/methodology/approach: This study is a quantitative and qualitative research where its primary data collected through interviews, questionnaires, observations, and document studies. This study uses proportional random sampling method with the sample size of 30 respondents.

Findings: The main criteria considered in the selection of perishable vendor to meet the needs of production department is quantity accuracy criteria with an average of 4.90 which was in very good intervals.

Implications: The last criteria are delivery accuracy, service, quality, and the last is price.

Keywords: criteria for selecting supplier, perishable vendor, production department.

PENDAHULUAN

Tourism is one of the sources to the Balinese economy because Bali has an attractive nature and diverse culture making Bali be an attraction for local and foreign tourists. To maintain the tourism, it must be supported by adequate facilities and infrastructure, such as accommodation facilities, restaurants, tourist destinations and transportation. One of the important transportations in supporting tourist visits is air transportation services which are used for connecting inter-island transportation. To

fulfill food and beverages for passengers during flights, it is necessary to have a company engaged in flight catering services

PT. Aerofood ACS Denpasar Unit as the only provider of catering services for all flights to/from I Gusti Ngurah Rai International Airport, has a big responsibility in fulfilling food requests from all airlines. It is recorded that throughout 2020, I Gusti Ngurah Rai Airport has served 56,173 aircraft movements and 6,238,774 domestic and foreign passengers. Meanwhile, in 2019 there were 155,334 aircraft movements and 24,169,561 passengers. The following is a graph of aircraft movements and the number of passengers in 2019 and 2020.

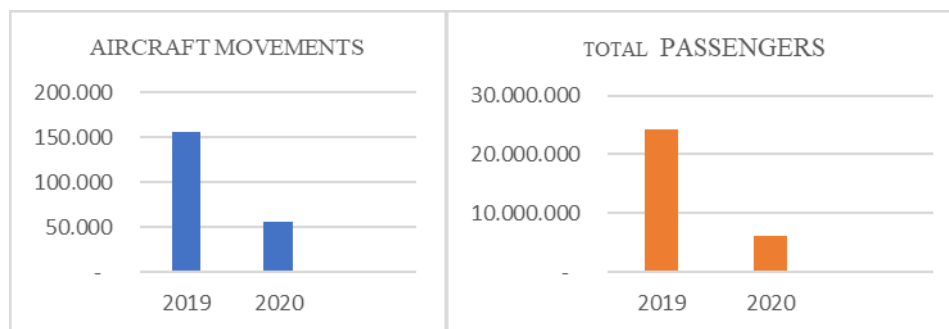


Figure 1. Chart of Aircraft Movements and Number of Passengers in 2019 and 2020
[Source: Statistical data of PT. Angkasa Pura I, 2020]

Based on the graph in figure 1, can be seen that in 2020 there was a decrease in the number of aircraft movements by 63.8% and a decrease in the number of aircraft passengers by 74.2% when compared to 2019.

To address the problem of decreasing the number of flights, PT. Aerofood ACS made other business breakthroughs such as ACS Gourmet, lounges in several Balinese government offices, and industrial catering in several hotels and hospitals to increase company profits during the COVID-19 pandemic which increase the number of raw materials purchases. The following is a graph of raw materials purchases at PT. Aerofood ACS Garuda during the COVID-19 pandemic from April 2020 to February 2021.

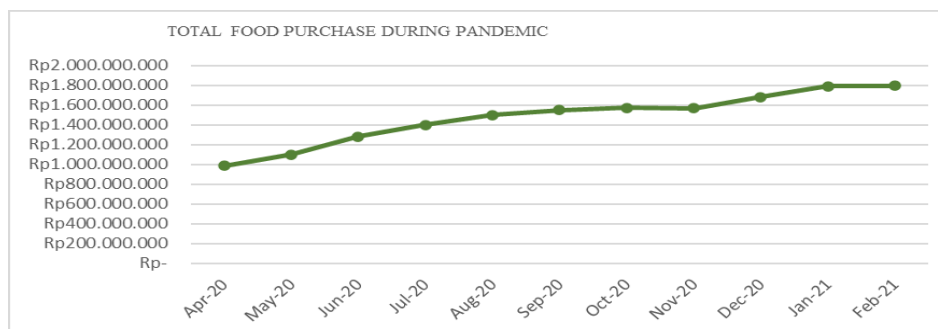


Figure 2. Total food purchase from April 2020 to February 2021 at PT. Aerofood ACS
[Source: Procurement Department of PT. Aerofood ACS Unit Denpasar, 2020]

All these business prospects cause the need for food ingredients to be more diverse. If these ingredients are not met, it will hamper the production department process in producing all kinds of food according to the menu specifications of each airlines and outside customers.

In meeting these needs, the production and procurement departments need vendors who can be invited to cooperate in terms of supplying food ingredients. Accuracy in choosing vendors is very necessary, because vendors who provide quality goods, appropriate prices, fast delivery times, and the number of goods ordered to order, will greatly affect the smooth operation of the production department. There are two types of food ingredients, namely perishables and groceries. Perishable material such as vegetables, fruit, cheese, eggs, meat, fish, that need to be stored in a special place. The vendor selection criteria in meeting the production department's needs for perishable materials include price, quality, service, delivery speed, quantity accuracy, completeness of documents, guarantees, etc. In addition, because perishable material have a high risk of damage, selective selection is needed.

Inflight catering is a catering service that serves food and drinks for airship passengers during their journey. The meal is ordered by the airline company and the cost is charged to the passenger and is included in the ticket price (Fadiati, 2011). Production is the process of creating goods and services (Haizer & Berry, 2010). According to Kumar & N. Suresh (2009), the purpose of the production department is to produce service goods of the right quality and quantity at the right time and at the right production costs. Badzlina Daroyani Novitaningrum (2014), states that: "Procurement is an activity to obtain goods or services in a transparent, effective and efficient manner according to the needs and desires of users." Minatyo (2011) classifies material to be processed into two major groups are perishables and groceries. Perishable materials that are easily damaged due to their properties such as vegetables, fruit, meat, fish, eggs, cheese, etc. This item needs to be stored specifically with good refrigeration facilities and according to the number of items that should be. Vendors are business partners who play a very important role in ensuring the availability of supply goods needed by the company (Wirdianto & E., 2008). Competent vendor selection is one of the most important functions that the purchasing department should perform.

Based on the above background, the problem to be discussed in this study is as follows. (1) What is the procedure for selecting perishable vendors in meeting the needs of the production department at PT. Aerofood ACS Garuda? (2) What are the main criteria in selecting perishable vendors for the needs of the production department at PT. Aerofood ACS Garuda?

RESEARCH METHODS

This research was conducted in the procurement department of PT. Aerofood ACS Denpasar. The object of this research relates to the selection of vendors to meet the needs of the production department at PT. Aerofood ACS by identifying the problem variables that are price, quality, service, delivery accuracy, and quantity accuracy (Rahmayanti, 2010). This study uses quantitative and qualitative data types. The data source that researcher uses is primary data or information obtained for the first time by the researcher (Sekaran, 2011), in the form of the results of distributing questionnaires and interviews related to vendor selection and secondary data or indirect data sources (Sugiyono, 2015), in the form of an overview of the company.

The sampling technique used is proportional random sampling or sampling from a population that has different groups and characteristics (Juliandi et al., 2014). The determination of the number of samples developed by Roscoe is a feasible sample size in the study, which is between 30 and 500 (Sugiyono, 2015). The reference sample in this research is 30 (thirty) respondents, namely 2 respondents from the procurement department, 23 respondents from the production department, 3 respondents from PPIC (Production Planning Inventory Control) & stores, and 2 respondents from QHSE (Quality, Hygiene, Safety, Environment) department. To find out the procedure for selecting perishable material vendors, interviews were conducted with two informants, namely the procurement manager and the procurement admin.

The data collection method using observation techniques or systematically observing the symptoms being investigated (Narbuko & Achmadi, 2010), interviews or asking questions to informants (Sugiyono, 2013), questionnaires or lists containing a series of questions regarding a research problem (Narbuko & Achmadi, 2010), and document studies or studying documents related to research (Arikunto, 2014).

This study uses descriptive qualitative methods and descriptive statistics. Qualitative descriptive is methods of describing various conditions that exist in the community become the object of research and bring that reality to the surface (Bungin, 2011). Qualitative descriptive is describe information obtained through interviews related to the procedure for selecting groceries vendors. While descriptive statistics is analyzing data by describing the data that has been collected with the steps: data reduction, data presentation, and conclusions (Sugiyono, 2016). After the data from the questionnaire are obtained, the calculation of the average value will be analyzed into percentages with the steps according to Ridwan (2004), as follows: (1) Calculate the respondent's value and each aspect or sub variable. (2) Record value. (3) Calculate the average value with formula (Sugiyono, 2010): $Me = \frac{\sum Xi}{n}$

(1)

Information:

Me = Mean (average of respondents' answers)

Σ = Sigma (sum of all respondents' answer scores)

Xi = Xi value (score of respondents' answers per variable)

n = Number of respondents.

(4) Calculate the percentage with the formula: $DP = n/N \cdot 100\%$

(2)

Information:

DP = Descriptive percentage (%)

n = empirical score (number of respondents who answered)

N = Total number of respondents

RESULTS AND DISCUSSION

Results of Perishable Vendor Selection Procedure

The results of a literature study and interviews with I Putu Asta Ariasa as procurement manager at PT. Aerofood ACS Unit Denpasar on Wednesday, April 21st 2021 regarding the procedure for selecting vendors for perishable materials can be concluded as follows.

Sourcing is the search for sources of suppliers. PT. Aerofood ACS by establishing a list of vendors as a reference in the procurement process called the AVL (Approved Vendor List). The sourcing process to become an AVL list consists of four main steps, namely shortlisting, due diligence, evaluation, and AVL listing.

1. Shortlisting

The procurement unit performs a shortlist by preparing a list of potential vendors. Shortlists can be obtained from various sources such as vendor registrations, user information, and professional associations. After the shortlist is determined, the process continues with the evaluation of the administrative document requirements for the distributor vendor which consists of a registration form to become a partner, photocopy of company deed, Business Identification Number (NIB), Company Business License (SIUP), Taxpayer Tax Number (NPWP), domicile certificate, list of work experiences such as purchase orders/work agreements/work orders, International Organization for Standardization (ISO), halal certificates (for food products), Certificate of Analysis (COA), construction service business licenses (SIUJK) for construction company, and other certificates/licensing documents from the authorized department according to the type of procurement carried out. While the licensing requirements for individual and small business providers include a registration form to become a partner,

a leader's Identity Card (KTP), a trading business license, a Taxpayer Tax Number (NPWP), income tax report (SPT PPh), a Registered Certificate Tax (SKT), domicile certificate, and integrity pact.

2. Due Diligence

Due diligence is an activity to obtain material information or facts from potential vendors as part of the evaluation process. Due diligence can be done by examining and reviewing administrative, technical, and financial documents provided by prospective vendors, references from other customers or official publications from institutions/associations/governments, discussions and interviews with related parties, and site visits by visiting vendor.

3. Evaluation

The due diligence team evaluates all related information and documents and is grouped according to criteria. Vendor evaluation at this stage includes: administrative document requirements, adequacy of funds, facilities owned, and application of quality audit.

4. AVL (Approved Vendor List)

Based on the published evaluations, a verified AVL was generated. The function of the AVL is as an internal company tool to make it easier to find out sources of potential and qualified providers for certain types of material needed in accordance with company qualifications.

The following is a flow chart of the AVL PT. Aerofood ACS.

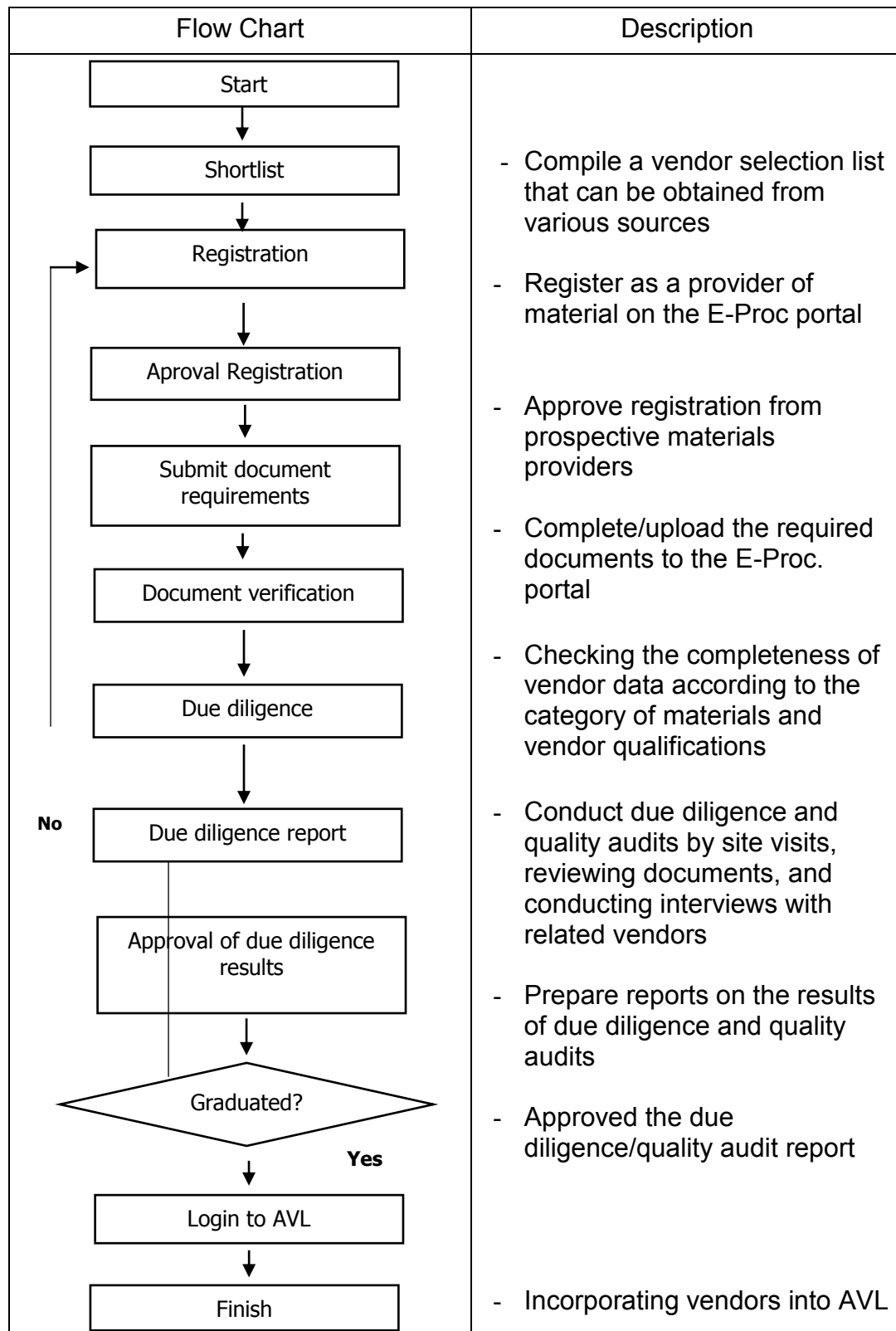


Figure 3. Flow chart of AVL registration procedures at PT. Aerofood ACS
[Source: Data processed, 2021]

Furthermore, the procedure for selecting perishable material vendors to fulfill the needs of the production department starts from giving the entire list of perishable materials by the production department head to the procurement department to find

vendors. In selecting prospective vendors, the production team conducts an e-auction (electronic auction) or online tender using the internet. When running the tender, the procurement department selects at least 3 potential vendors who have the same item for comparison, which will later choose one of the best vendors with raw material classifications such as vegetable, fruit, protein, and egg. After the tender schedule for each raw material is determined by the procurement department, the prospective vendor holds an explanation meeting regarding the specifications of the food ingredients offered. In this meeting, the procurement department received a proposal for a price offer for food ingredients, followed by price negotiations.

The procurement make comparisons to the three vendors with the criteria considered, such as price, quality, service, delivery accuracy, and quantity accuracy. The price criteria considered are vendors who offer the lowest prices because low prices will benefit the company to minimize food production costs. In determining the quality of materials, the procurement department considers the specifications of the food ingredients that have been provided by the production department to carry out a yield test by receiving samples of food ingredients owned by vendors. The service criteria considered are ease of contact, speed of request handling, clarity of product information provision, etc. In the criteria for the accuracy of delivery, the procurement department considers the accuracy of the delivery date and how the transportation is handled. The last criterion considered by the procurement department is the accuracy of the amount of food delivery in accordance with the request.

If the vendor has been compared by the procurement department with the criteria above, then the procurement chooses one of the three vendors who will be the winning vendor. Two vendors that are not selected will be included in the list of reserve vendors. If at any time the winning vendor experiences problems in bringing materials, the backup vendor will be used. Considering that the price of perishable materials is volatile, the procurement department prepares a perishable vendor contract for only 1 month, so the contract will be updated if the vendor sends a new price quote.

The technical fulfillment of the production's food material needs is followed by making a purchase requisition (PR) by the PPIC department or section that in charge of planning material needs in accordance with operational needs effectively and efficiently. Then the PR will be processed by the procurement department to immediately make a purchase order (PO) or a letter of order for material that sent via e-mail to each vendor. After the materials are prepared by the vendor and sent to the company, the goods will be received by the receiving department and checked for quality by the quality control department. Materials that have been received will be stored in each storage area to maintain the quality of the material. When the production

department requires food ingredients to be processed, they only need to send a store requisition (SR) form for what foodstuffs are needed, therefore the production department's needs will be met and operations run smoothly.

The following is a flow chart of the procedure for selecting perishable material vendors in meeting the needs of the production department at PT. Aerofood ACS.

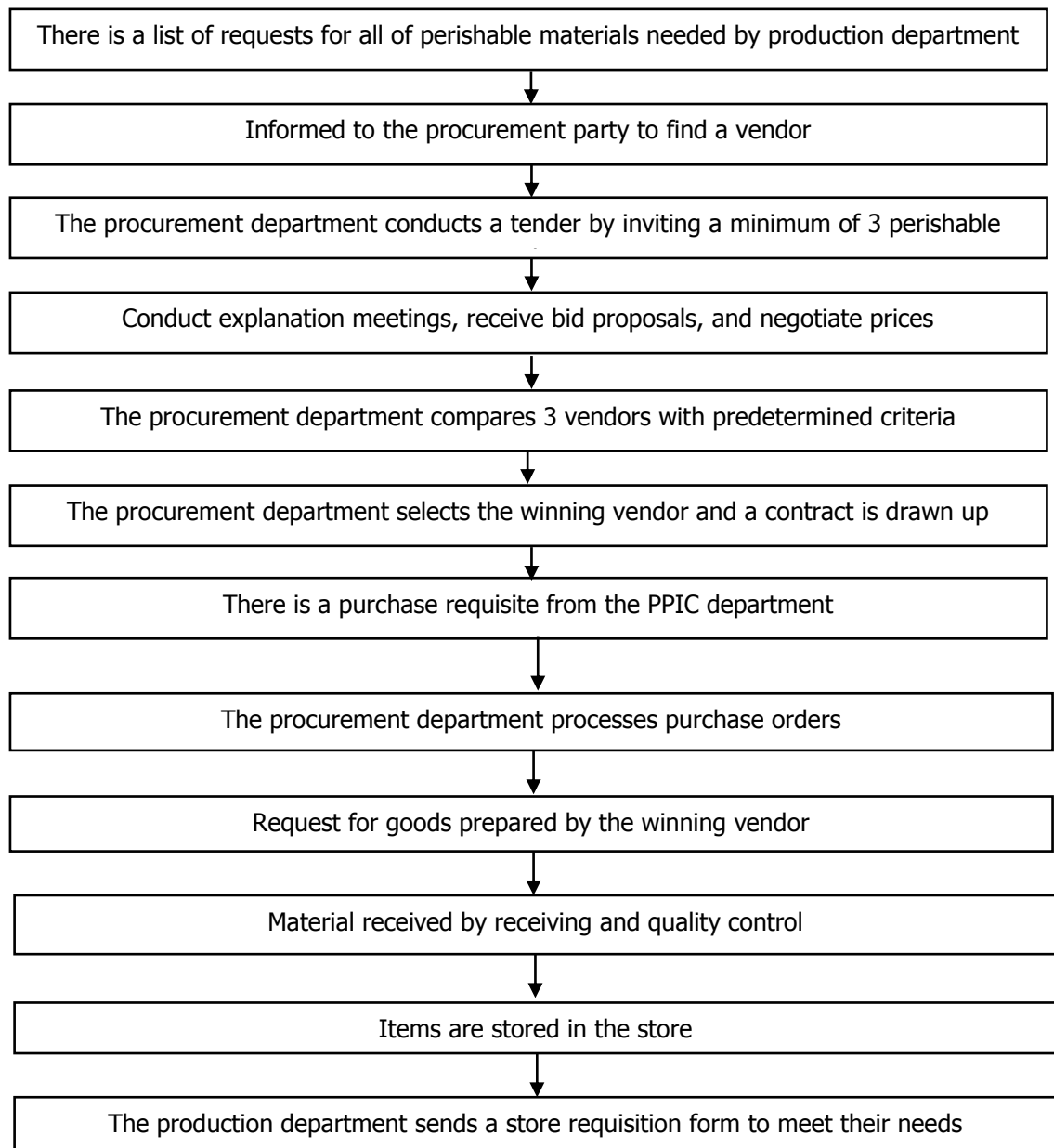


Figure 4. Flow chart of vendor selection procedures in meeting the needs of the production department at PT. Aerofood ACS.
[Source: Data processed, 2021]

The following are some of the activities carried out by researchers on the object of research including receipt of goods and price proposals by vendors to PT. Aerofood ACS.



Figure 5. Receive price list and proposal from vendors
[Source: Researchers' personal document, 2021]



Figure 6. The process of checking the arrival of goods orders when receiving
[Source: Researchers' personal document, 2021]

Result of Main Criteria for Selection of Perishable Materials Vendor

In the description of the research questionnaire, respondents' perceptions of selection perishable vendors will be described to meet the needs of the production department. Where the quantitative assessment uses an interval scale by integrating the average score according to the assessment category. The class interval formula according to (Akbar & et al, 2016) is as follows.

$$\begin{aligned}
 \text{Highest value} &= 5 \\
 \text{Low value} &= 1 \\
 \text{Range} &= \text{highest value} - \text{lowest value} \\
 &= 5 - 1 \\
 &= 4 \\
 \text{C (Class Interval)} &= \frac{\text{R (Range)}}{\text{K (Number of Classification)}} \\
 &= \frac{4}{5} \\
 &= 0.8
 \end{aligned}$$

From the class interval, the basics of classification are obtained with the following assessment categories.

- 1 – 1.8 = very unimportant
- > 1.8 – 2.6 = not important
- > 2.6 – 3.4 = doubtful
- > 3.8 – 4.2 = important
- > 4.2 – 5 = very important

The results of the data tabulation of respondents' answers to 12 questions about the criteria for selecting perishable material vendors in meeting the needs of the production department at PT. Aerofood ACS Unit Denpasar answered by 30 respondents for each category can be seen in table 1.

Table 1. Respondent's Answers About the Main Criteria in the Selection of Perishable Vendors to Fulfill the Needs of the Production Department at PT. Aerofood ACS
[Source: Data processed, 2021]

Questions	Answers					Total	Avg	Desc.	Rank.
	Very important	Important	Doubtful	Not important	Very unimportant				
Price									
Reasonable price with the quality of the material produced	25 (83,3%)	4 (13,3%)	1 (3,3%)	0	0	144	4,80	Very important	1
The ability to give discounts in a certain quantity	13 (43,4%)	15 (50%)	1 (3,3%)	1 (3,3%)	0	130	4,33	Very important	2
Average							4,57	Very important	
Quality									
Conformity of material with predetermined specifications	25 (83,3%)	3 (10%)	0	1 (3,3%)	1 (3,3%)	140	4,67	Very important	3
Provision of goods without defects	27 (90%)	2 (6,7%)	0	0	1 (3,3%)	144	4,80	Very important	2
Ability to provide consistent quality	27 (90%)	3 (10%)	0	0	0	147	4,90	Very important	1
Average							4,79	Very important	
Service									
Ease of contact	24 (80%)	6 (20%)	0	0	0	144	4,80	Very important	2
Ability to provide information clearly and easily understood	23 (76,7%)	7 (23,3%)	0	0	0	143	4,77	Very important	3
Speed in responding to requests	25 (83,3%)	5 (16,7%)	0	0	0	145	4,83	Very important	1
Quick response in resolving complaints	25 (83,3%)	5 (16,7%)	0	0	0	145	4,83	Very important	1
Average							4,81	Very important	
Delivery									

Ability to deliver material according to the agreed date	28 (93,3%)	2 (6,75%)	0	0	0	148	4,93	Very important	1
Ability in handling transportation systems	24 (80%)	6 (20%)	0	0	0	144	4,80	Very important	2
Average							4,87	Very important	
Quantity									
Accuracy and conformity of quantities in delivery	27 (90%)	3 (10%)	0	0	0	147	4,90	Very important	1
Average							4,90	Very important	
Overall average							4,78	Very important	

Based on table 1, the highest value in the results in this study in the 5 dimensions, is the quantity dimension with a value of 4.90 which is included in the very important category. While the lowest value is the price dimension with a value of 4.57 which is also included in the very important category.

Of the 12 indicators in all dimensions of research, the indicator that has the highest value is the ability to deliver materials according to the agreed date on the delivery dimension with a value of 4.93 in the very important category. While the lowest value is in the indicator of the ability to provide discounts in a certain amount with a value of 4.33 which also falls into the very important category.

Based on table 1, it can be seen that the average score of 12 questions regarding the selection criteria for perishable material vendors to fulfill the needs of the production department at PT. Aerofood ACS Unit Denpasar, is 4.78 which is within the range of 4.20 – 5.00 intervals in the very important category. It means that the respondents in this study are assessed using the five dimensions used as indicators for the selection of perishable material vendors to fulfill the needs of the production department at PT. Aerofood ACS is very important.

Based on the 5 dimensions of perishable material vendor selection criteria in meeting the needs of the production department of PT. Aerofood ACS, the order of assessment is obtained based on the average value per dimension starting from rank 1 to 5. The dimensions that are ranked first to ranked fifth in order are quantity accuracy, delivery accuracy, service, quality (quality), and price (price). The following is a table of values and ranking for each dimension of vendor selection criteria.

Table 2. Value and ranking per dimension
[Source: Data processed, 2021]

Dimensions	Value	Ranking
Quantity	4,90	I
Delivery	4,87	II
Service	4,81	III
Quality	4,79	IV
Price	4,57	V

The vendor selection process is an important part of an organization. Selecting a selective vendor can help companies maintain the quality of raw materials, reduce production costs, speed up the production process, and obtain good service. Therefore the procurement department must choose the right vendor. Several studies have been conducted in selecting the right vendor using certain criteria so that the risk of harming the production process can be minimized. Because the production department at PT. Aerofood ACS has a big responsibility in maintaining the continuity of the food production process, therefore the selection of vendors by the production department is considered very important especially for perishable ingredients that have a high risk of damage. Therefore, researchers want to know what are the main criteria in the selection of perishable vendors to meet the needs of the production department at PT. Aerofood ACS Unit Denpasar.

Of the 12 existing indicators, selected by respondents PT. Aerofood ACS as the main indicator with the highest average score of 4.93 is the ability to deliver goods according to the agreed date which is located in the delivery dimension. These conditions are considered in order to avoid delays in the production process. The delay in food production and distribution can lead to complaints from airlines that have ordered food. This also affects the delay in taking off the plane which requires PT. Aerofood ACS paid a large amount of compensation.

Of the 5 existing dimensions, the dimensions chosen by PT. Aerofood ACS in determining the main criteria for vendor selection, namely the quantity dimension with a value of 4.90. This indicates that the PT. Aerofood ACS prioritizes the accuracy and suitability of the number of materials listed on the PO (purchase order) with the materials brought by the vendor at the time of delivery. This condition is considered to avoid non-fulfillment of demand for materials to be used in the food production process by the production department. The lack of food ingredients that will be used in the production process will also slow down the production department in working. The procurement department will also difficult to find food ingredients if the arrival of materials does not match demand.

Delivery accuracy is a dimension that ranks second in the vendor selection criteria. This is because the PT. Aerofood ACS wants the delivery of materials to be carried out on the exact date stated on the PO (purchase order) and without any delays. The suitability of the delivery date will greatly help the speed of the food processing.

Furthermore, the service criteria is ranked third in the vendor selection criteria. This is because the PT. Aerofood ACS prioritizes the convenience and services provided by vendors in handling demand for materials. Services in the form of ease of contact for vendors, the ability to provide information related to product specifications, speed in responding to orders and complaints, are quite important as guidelines for selecting vendors, especially for the procurement department because the procurement department is the liaison between vendors and users. If the procurement department is satisfied with the services provided, they will easily convey information and recommend it to the user.

The quality dimension is ranked fourth in the vendor selection. This is because the PT. Aerofood ACS considers that the quality of perishable materials between vendors is not much different. Especially perishable ingredients such as fruit and vegetables have similar qualities because they are obtained from the same place, that are Badung market and its surroundings.

While the price dimension is ranked fifth or last rank in the selection of vendors. With a fairly large scale company and high profit every month, the PT. Aerofood ACS believes that low prices are not the main criteria in selecting vendors, but in terms of delivery and quantity so that the needs of the production department are still met.

CONCLUSION

Based on the discussion on analysis of selection perishable vendors at PT. Aerofood ACS, it can be concluded as follows. The vendor selection process at PT. Aerofood ACS, starting from sourcing or searching for suppliers of goods to be sorted and entered into the AVL (Approved Vendor List) list. Vendors who have passed the AVL list will later be used as a reference in the procurement process. The steps to determine the AVL vendor start from the shortlist, due diligence, evaluation, and passing the AVL. Then, for the selection of perishable vendors at PT. Aerofood ACS started by providing a list of all the production department's needs to the procurement department to find vendors. The procurement department conducts a tender by inviting a minimum of 3 AVL vendors to hold an explanation meeting, receive bid proposals, and negotiate prices. Then the procurement department compares the 3 vendors with criteria, that are price, quality, service, delivery accuracy, and quantity accuracy. After

discussion, the procurement department announced the winning vendor to immediately make a contract. The process of meeting the needs of the production department, starting from the purchase requisition (PR) made by the PPIC department. The PR will be processed by the procurement department to make a purchase order (PO). Request for the materials are immediately processed by the winning vendor to be sent to receiving and checked by quality control. Material that have been received will be stored in the store according to the classification of materials. If the production department requires food ingredients, they only need to fill out a store requisition so that the need for the production process will be met.

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