

# Basic Analysis of Foreign Exchange Cost Allocation at Pt X Using Activity Based Costing Method (Case Study on Food and Beverage Companies)

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## Abstract

This article is a case study on a multinational company that has the risk of exchange rate differences arising from foreign currency translations as a result of business transactions using foreign currencies. The difference in foreign exchange costs that arise needs to be allocated up to the product level so that the unit of analysis can calculate the appropriate production costs to produce product profitability accurately and reliably. The approach used in this study is a descriptive analysis research using qualitative methods. The results of the research will find the right allocation base to be used as the basis for the allocation of foreign exchange costs at PT X and see the impact on the profitability of the business unit in the analysis unit so that it can help the analysis unit make reliable decisions.

*Keywords:* Activity Based Costing, Foreign Currency, Exchange Rate Translation, Product Allocation.

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Received: 28 May 2023

Revised: 23 July 2023

Accepted: 15 August 2023

## 1. Introduction

Currently, business competition is becoming increasingly intense on a local and global scale, requiring companies to be able to increase productivity and reduce production costs. Increasing business competition forces companies to implement an accurate cost calculation system. Atkinson et al. (2012) emphasized the importance of accurately measuring production costs by focusing on cost allocation, utilizing activity-based costing, understanding resource consumption, allocating overhead costs to activities, and promoting cost transparency. By adopting these principles, companies can gain better insight into production costs and make informed and accurate decisions to improve performance and profitability.

This research was conducted at PT X, which is a multinational company that produces food and beverages with its head office in a European country. PT X is spread across 191 countries, has more than 2,000 brands, ranging from global icons to favorite local products. As a food and beverage manufacturer, PT X has business transactions using foreign currencies such as purchases of raw materials, packaging, finished goods, and others. Details of foreign currency transactions can be seen in Figure 1 which shows the number of PT X transactions during 2021 in million rupiah units. (10 pt) Here introduce the paper, and put a nomenclature if necessary, in a box with the same font size as the rest of the paper. The paragraphs continue from here and are only separated by headings, subheadings, images and formulas. The section headings are arranged by numbers, bold and 10 pt. Here follows further instructions for authors.

The use of foreign currency in business transactions may result in foreign exchange fees. Exchange rate difference is the difference between transactions in foreign currency which are converted into the functional currency by using the exchange ratio of two foreign currency values. Exchange differences arising on the settlement of monetary items or in the process of translating monetary items at rates different from the rates at which they are translated, on initial recognition during the period or in previous financial statement periods, are recognized in profit or loss in the period in which they occur (PSAK No. .10:28).

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PT X uses System Analysis and Product in Data Processing (SAP) in business processes so that expenses must be allocated up to the product level and to allocate these expenses an allocation basis is needed which makes ABC very important in PT X's business processes. In preparing financial reports, PT X has follow the applicable standards and make a reference in making accounting standards that apply to the company's internal. PT X's accounting standard is called XAS. In XAS it is explained that:

“Foreign currency transactions are measured by the exchange rate on the date of the transaction. by way of simplification rates week or month transactions can be used. At balance sheet date, monetary items denominated in foreign currencies are measured at the closing rate (including when they relate to intra-group transactions). Monetary items are:

- a) Assets that represent the right to receive a fixed or determinable amount of cash, such as receivables, bank balances, etc.
- b) Obligations representing obligations to deliver a fixed or determinable amount of cash, for example debts, financial debts, provisions to be settled in cash, etc.

PT X also regulates the classification of exchange differences in the income statement. The XAS also explains that realized and unrealized exchange differences must be recognized in the accounts in accordance with foreign currency transactions related to receivables and payables arising from sales, purchases, bank transactions, and services.

Based on PT X's 2021 transaction data in Figure 1, the largest transaction using foreign currency is the purchase of raw materials. Therefore this study will specifically discuss the cost of foreign exchange which is classified in the PRO account. In addition, in presenting the financial statements, PT X also prepares internal financial reports which are prepared based on the product level used to carry out profitability analysis at the product level. However, in the process of preparing the financial statements, the resulting exchange differences cannot be allocated directly to products because these transactions are general costs and not specific costs. Therefore,

Based on initial interviews with PT X's Corporate Decision Support division, it is said that currently PT X allocates general costs to products based on sales targets, whereas as a multinational and multi-product company, PT X has a variety of products manufactured using raw materials from both domestic and foreign. country, so that PT X's business processes are closely linked to foreign currencies. However, the sales target used as the basis for the allocation shows a disproportionate distribution because the biggest sales targets are products with the majority of production using domestic raw materials and the lower product sales target, the majority of which use imported raw materials.

In manufacturing companies, the Activity Based Costing (ABC) method can help in identifying the true cost of producing different products or product lines. Assigning costs based on the activities required to produce each product, ABC can help uncover which products are profitable and which are not. In calculating using the ABC method, a basic allocation is needed which is a factor of the incurrence of costs in an activity. Allocation bases may vary depending on the activities and the nature of the costs involved. Examples of basic allocations in ABC include direct labor hours, machine hours, number of set-ups and so on. By identifying an appropriate allocation base for each activity,

Almeida and Cunha (2017) conducted research on the implementation of the ABC method in manufacturing companies to calculate production costs in manufacturing companies by allocating costs according to consumption for producing products and providing useful and relevant information to companies in an effort to reduce production costs. There are many studies that discuss cost allocation in manufacturing companies using the ABC method, but very little research discusses the allocation of foreign exchange costs so it is hoped that this research can contribute to scientific writing. Al-Qudah & Al-Hroot (2017) conducted research to investigate and evaluate the effect of applying the ABC method determination technique on the profitability of manufacturing companies in Jordan. The sample of this research includes 72 observations; The observations are six financial ratios based on the financial reports of 12 industrial companies in Jordan that applied the ABC technique in the 2000-2011 period. The result of this study is that there is no overall significant increase in the profitability ratios of Jordanian manufacturing companies after the implementation of ABC. Badiru, et al., (2018) conducted research that discussed system integration of manufacturing companies. The integrated systems approach refers to the ABC concept of connecting and aligning various systems within an organization to increase overall efficiency, productivity and performance. This research discusses the impact of foreign currency that can affect the company's supply chain, but does not discuss the allocation of the impact of foreign currency. Mazbayeva & Saparbayeva (2022) conducted a study to examine the impact of the importance of cost information and product variety on the implementation of the ABC method in Kazakh poultry

companies. The results show that there is indeed a positive relationship between product diversity and ABC adoption which can improve accuracy in calculating product costs.

There are many studies that discuss cost allocation in manufacturing companies using the ABC method, but there is no research that discusses the allocation of foreign exchange costs to products so it is hoped that this research can contribute to scientific writing. Previous studies have become a reference in conducting research because they have similarities in terms of the implementation of the ABC method and its impact on company profitability. This research is different from the studies mentioned above because this research focuses on multinational companies that have foreign currency exchange risk recorded in PRO accounts.

Babad and Balachandran (1993) selected cost allocation for planning and control, if too many allocations are selected, planning and controlling production costs for each driver will not be effective and efficient. Thus, on the basis of cost benefits, a balance must be struck between the benefits of accuracy and the costs of data collection, storage and processing. Only the drivers associated with the majority of costs need to be identified and tracked. Referring to this research, this research was conducted to find the right allocation base to be used by PT X in allocating foreign exchange costs included in the PRO account so that it can help PT X in calculating accurate total product profitability so as to produce the right decision.

## **2. Literature Review**

### *2.1 Cost Concept*

Cost is the most important object in discussing the cost of production. This is because if a company wants to generate profits as desired, the company must be able to allocate the costs incurred. Costs are resources sacrificed to achieve certain goals. Costs (such as direct materials or advertising) are usually measured as the amount of money that must be paid to obtain goods or services (Bhimani et al., 2019). Another definition of cost is the amount of cash or cash equivalents sacrificed for goods or services that are expected to bring current or future benefits to the organization (Mowen et al., 2011). Based on this understanding, it can be concluded that costs are expenditures or sacrifices of economic resources expended to obtain or produce goods or services. Costs are a deduction from company assets or expenses that must be borne to achieve certain goals.

### *2.2 Cost Classification*

Cost classification is based on the ability to trace to a cost object (traceability) which is divided into two, namely direct costs and indirect costs. Direct costs are costs that can be traced accurately to the cost object and can be clearly seen on the cost object. Meanwhile, indirect costs are costs that cannot be traced directly and accurately to a cost object, so a cost allocation is needed to charge indirect costs to the cost object. In manufacturing companies, direct costs can be identified in the form of raw materials, packaging, direct labor, direct utilities, and direct equipment and machine costs. While indirect costs are costs incurred to support the manufacturing process and are divided into several products or departments. Examples of indirect costs are factory rent, depreciation and maintenance of production equipment, supplies and consumables, and overhead costs.

### *2.3 Activity Based Cost Allocation Method*

To assign indirect costs to products, a cost allocation is required. The use of cost allocation to explain costs that cannot be traced directly to a cost object is charged using a reasonable and relevant method (Mowen et al., 2018). The method used in activity-based cost allocation is Activity-Based Costing (ABC). The following is the definition of Activity Based Costing (ABC) according to several experts: Hansen and Mowen (2018) ABC is a method that identifies activities carried out within an organization and assigns costs to these activities based on resource consumption. Costs are then allocated to products, services or other cost objects using appropriate cost allocations. According to Blocher et al., (2019) ABC is a costing approach that tracks resource consumption and costs to activities, and then allocates activity costs to products, services, or other cost objects based on the appropriate cost drivers. The aim is to provide more accurate cost information for decision making and performance evaluation. Based on the understanding of experts, it can be defined that ABC is a product costing methodology that focuses on costing based on activities that consume resources and activity costs to products. Assign overhead costs to activities or activity cost centers using the appropriate resource cost driver basis. The ways to understand activities and combine them are organized into four activity levels, namely unit, group, product, and facilities. After grouping activities, then charging activity costs or cost objects uses the basis of the appropriate activity cost consumption triggers in measuring

the demand for cost objects on activities. Each group of overhead costs is assigned to products. This is done using pre-calculated rates and the value of the activity resources consumed by each type of product.

#### 2.4 Impact of ABC on Profitability

ABC has a direct relationship with profitability because it provides a more accurate and detailed understanding of the costs associated with various activities, products or services in an organization. By allocating costs based on the activities that drive them, ABC enables better cost management, pricing decisions, and resource allocation, which can impact profitability in a number of ways:

1. Cost accuracy: ABC provides a more accurate picture of the costs involved in producing a particular product or providing a service.
2. Cost control: ABC helps identify cost drivers and activities that consume the most resources.
3. Product or service profitability analysis: ABC allows organizations to more accurately assess the profitability of individual products, services or customer segments.
4. Decision making: ABC provides more reliable cost data for decision making.

Performance evaluation: ABC allows for a more precise evaluation of the performance of different departments, teams or individuals.

### 3. Methods

The research was conducted using a case study strategy. Case study research is empirical research with the aim of investigating contemporary phenomena in real-life contexts. This research is the right approach to answer the question of why or how (Yin, 2014). This research was conducted by observing PT X for business transactions using foreign currencies, causing foreign exchange costs to be included in the PRO account. Interviews were also conducted in this study to validate the research analysis process. This research is a descriptive analysis research using qualitative methods. Qualitative methods are used to explore phenomena using text-based data.

Sources of data used in this study are documentation and interviews which are primary data. The data needed to carry out a basic analysis of cost allocation at PT X includes business processes related to business transactions using foreign currencies and causing exchange rate differences to be included in the PRO account. Documentation and document review methods are carried out on payment reports using foreign currency and PT X's financial statement data for 2021 in SAP PT X. Through this method it can produce information about PRO PT X, allocation bases that have the potential to be used and their impact on product profitability that will be the material of analysis. Primary data can be obtained from interviews through interactions between researchers and participants directly or via the internet (Cassell & Symon, 2004). The interviews in this study were to validate research results and explore other information that is deeper and relevant to the research. The nature of the interview to be conducted is a semi-structured interview. Informants who were the target of researchers as informants in this study came from PT X's internal parties who were in the position of Corporate Decision Support (CDS) because this division has the duty to carry out calculations on the basis of the allocation of foreign exchange differences included in the PRO account. The purpose of selecting the sources is to support and validate the data. The interviews in this study were to validate research results and explore other information that is deeper and relevant to the research. The nature of the interview to be conducted is a semi-structured interview. Informants who were the target of researchers as informants in this study came from PT X's internal parties who were in the position of Corporate Decision Support (CDS) because this division has the duty to carry out calculations on the basis of the allocation of foreign exchange differences included in the PRO account. The purpose of selecting the sources is to support and validate the data. The interviews in this study were to validate research results and explore other information that is deeper and relevant to the research. The nature of the interview to be conducted is a semi-structured interview. Informants who were the target of researchers as informants in this study came from PT X's internal parties who were in the position of Corporate Decision Support (CDS) because this division has the duty to carry out calculations on the basis of the allocation of foreign exchange differences included in the PRO account. The purpose of selecting the sources is to support and validate the data. Informants who were the target of researchers as informants in this study came from PT X's internal parties who were in the position of Corporate Decision Support (CDS) because this division has the main function of carrying out calculations on the basis of the allocation of foreign exchange differences included in the PRO account. The purpose of selecting the sources is to support and validate the data. Informants who were the target of researchers as informants in this study came from PT X's internal parties who were in the position of Corporate Decision Support

(CDS) because this division has the main function of carrying out calculations on the basis of the allocation of foreign exchange differences included in the PRO account. The purpose of selecting the sources is to support and validate the data.

The data that has been collected and validated will then be analyzed. The analysis was carried out using the content analysis method, which is a systematic and objective research method in obtaining, identifying, and understanding the content or messages contained in communication (Krippendorff, 2004). In the data analysis stage, the results of the documentation will be connected with the results of the interviews to obtain results that can answer the research questions. This research was conducted at PT X which is a multinational company producing food and beverages. The research was conducted at PT X because it has a Production Related Overhead account that is used to accommodate factory overhead activities that are not included in factory fixed overhead and can accommodate foreign exchange costs.

## 4. Result and Discussions

### 4.1. Results

PT X is a multinational manufacturing company that was established in Indonesia since 1971 and has absorbed a workforce of 3,200 employees. PT X produces dairy products, food and beverages for sale domestically and for export abroad. PT X also purchases imports of raw materials and finished goods that cannot be purchased or produced in Indonesia. As a multinational company. PT X has business relationships with overseas companies and uses foreign currency in its business processes. PT X produces more than two types of products, so it can be classified as a multi-product company. Products produced can be grouped into business units into powdered milk, chocolate drinks, instant coffee, complementary foods for breast milk, sterile milk, chocolate wafers, sweetened condensed milk, and ready-to-serve drinks. PT X has four factories to process approximately 500,000 liters of milk from 27,000 dairy farmers in East Java and 20,000 coffee bean farmers in Lampung. PT X guarantees that its products are always available through four distribution centers and hundreds of distributors located in every province.

As a global scale company, PT X always conducts product research and development to improve the products it produces to keep up with developments in concepts and various types of food in order to achieve public health by providing delicious and quality products for the people of Indonesia. Nutritional information and product content are described in each package to provide education for consumers. PT X always tries to be responsible and provide benefits to the community in every business process. PT X believes that in order to achieve long-term success, companies need to have benefits for society by creating shared benefits (Creating Shared Value). By producing nutritious and high-quality products,

#### 4.1.1. Financial Report of PT X

As a multi-product company, PT X has a consolidated income statement that presents the company's total financial condition as well as an income statement for each business unit. Table 4.1. present the financial statements of PT X as a whole. Achievement of sales and profits generated in 2021. The financial statements also show the existence of a PRO account in PT X's profit and loss statement.

**Table 1.** PT X Profit and Loss Report for 2021

General ledger	Mio IDR
<b>Sales volume (tonnes)</b>	<b>1.326.710</b>
<b>Gross Profit</b>	<b>58.421.584</b>
Trade spend related expenses	101.925
Cost of goods sold (own manuf.)	25.343.934
Cost of goods sold (purchase 3rd party)	506.512
Cost of goods sold (intra-group purchases)	4.004.287
VDE- FG transport & handling items	1.648.875
Other variable expenses	5.098

<i>Total variable expenses</i>	<i>31.610.631</i>
<b>Marginal contribution</b>	<b>26.810.953</b>
Marketing Expenses	4.964.661
Factory fixed overheads	1.918.694
IT- Production	182.551
Production-related overhead (PRO)	350.456
Depreciation of factory fixed assets	1.238.015
Trade asset expenses	107.447
Other product fixed expenses	58.611
Bad goods expense	621.109
<i>Total fixed product expenses</i>	<i>9.441.544</i>
<b>product contribution</b>	<b>17.369.409</b>
Fixed distribution expenses	505.046
IT - Distribution	72.149
Marketing general expenses	1.748.761
Other general expenses	1.098.676
Bad debts	(248.696)
IT - Others	277.462
<i>Total fixed overhead expenses</i>	<i>3.453.397</i>
<b>Operating Profit/EBIT</b>	<b>13.916.012</b>

#### 4.1.2. Business Unit of PT X

PT X has a variety of products in its line of business. To facilitate the grouping of the various types of products, PT X has several business units according to product categories. The business units owned by PT X are as follows:

- a. Sweetened Condensed Milk (SKM)
- b. Powdered Milk (SB)
- c. Sterilized Milk (SS)
- d. Coffee
- e. Chocolate
- f. Cereals

Each business unit sells products produced by PT X, but there are also business units that sell products imported from PT X's intra-group. This research will focus on three business units, namely the Sweetened Condensed Milk (SKM) business unit, Powdered Milk (SB), and Sterile Milk (SS). Table 4.2. will show the financial statements for the three business units. Based on the income statement, you can see the difference in PRO allocation for the three business units. In the 2021 income statement, the PRO allocation uses the 2021 sales target, this sales target is set in December 2020. In Table 4.3. shows business unit sales targets and actual achievements for 2021, even if sales do not reach or exceed targets, PRO allocations are still made based on sales targets set in December 2020.

#### 4.1.3. PRO on PT X

Based on PT X accounting standards, Production Related Overhead (PRO) is defined as an account that holds items related to production costs that are not included in the Factory Fixed Overhead (FFO) account and items recognized in the PRO account are fully expensed during the period in which they occur. Therefore, no part of these overhead

costs is capitalized to the inventory value. PRO in PT X is divided into four types that have different characteristics. Each of these items is described in XAS as follows:

- a) PRO Variation in FFOH and depreciation: PT X's inventory account represents the value of self-produced finished goods inventory measured at full cost. This shows that the value of PT X's inventory only includes raw materials and packaging and part production costs, but also includes fixed production costs and depreciation of factory fixed assets. Therefore, the cost of FFOH and the depreciation of factory fixed assets for the period, must be adjusted to reflect the cost of the amount sold (as opposed to the amount produced). This adjustment is made to the Variation of Factory Fixed Overheads and Variation of Factory Depreciation accounts. These accounts are credited with FFOH and depreciation of factory fixed assets which are capitalized as part of finished goods inventory at the end of the current period,
- b) PRO Start-up and Preliminary: This account refers to the entire process of testing a limited number of new or existing products at the partial level. This activity involves experimenting with new recipes, new manufacturing conditions, or new packaging formats. The trial costs include labor, materials and other additional costs incurred.
- c) PRO Operations Other: This account records the cost of raw materials, semi-finished products, and packaging materials that cannot be used and will be destroyed so they will be removed from inventory due to becoming ebags due to recipe changes, expiration, and others. This also includes assets that have not been used for twelve months because there is no production volume, the depreciation costs for these assets will be transferred to the PRO account. In addition, this account also accounts for products that experience problems but are not detected at the factory, such as defective/failed products that have left the factory but are the responsibility of the factory due to wrong product grammatical or prescription defects. This also includes the costs of special workforce groups whose job is to respond to and handle product needs related to tastes, needs and inputs from the market.
- d) PRO Outside of Operations Control: Exchange differences on export receivables are included in this item rather than in net sales. The purpose of this treatment is to avoid selling adjustments after ordering. In addition, because most of these transactions are intra-group, the resulting hedge will ultimately impact the Cost of Goods Sold (COGS) rather than sales as sales are completely eliminated during the consolidation process. Exchange differences that occur when paying suppliers in connection with imports of raw materials or finished goods are also included in this item.

## 4.2. Discussions

Activity-Based Costing (ABC) is a costing methodology that allocates costs based on the activities that drive them, rather than assigning costs based on arbitrary measures such as direct labor hours or machine hours. This can produce more accurate cost information and can help a more accurate calculation of the company's profit and loss. In manufacturing companies, ABC can be very useful in identifying the true costs of producing different products or product lines. By assigning costs based on the activity required to produce each product, ABC can help reveal which products are truly profitable and which are not. In the ABC method, allocation is a factor that causes or drives costs in an activity. Cost drivers can vary depending on the activity and the nature of the costs involved. By identifying the appropriate cost drivers for each activity, ABC can provide a more accurate picture of the costs associated with each product and can help companies make better decisions about pricing, product mix, and resource allocation. This chapter discusses the determination of the basis for allocating foreign exchange costs at PT X based on actual activities to produce products that use raw materials with payment methods using foreign currencies. After knowing the basic allocation for each product line, we will see the impact of the basic cost allocation using ABC on product profitability.

### 4.2.1. Identification of Payment Activities of PT X Using Foreign Currency

As a multi-product company, PT X has general costs that need to be charged to products in order to be able to calculate the required total production costs. Costs for foreign exchange differences arising from the purchase of raw materials and imports of finished goods are also general costs that need to be charged to products. Referring to PT X's 2021 payment data shown in Figure 5, the largest payments by companies using foreign currency are payments for purchases of raw materials and imports of finished goods. Therefore, these two components can be used as the basis for the allocation of foreign exchange costs included in the PRO account. Based on PT X's payment data for 2021, payments for imports of raw materials and packaging make the largest contribution, followed by imports of finished goods.

Currently, there is no standard from PT X for allocating foreign exchange costs so that foreign exchange costs are allocated based on one year's sales target for each business unit. In its business process, PT X divides several business units according to product category into powdered milk, chocolate drinks, instant coffee, complementary foods for breast milk, sterile milk, chocolate wafers, sweetened condensed milk, and ready-to-serve drinks. This research will simplify the business unit into three, namely, sterile milk, sweetened condensed milk, and powdered milk. The allocation of foreign exchange costs can be done by using raw materials and finished goods as the basis for allocation because in the bill of materials (BOM) PT X can be identified using the raw materials, packaging, and nearly finished goods used to produce a product. via BOM.

4.2.2. *Analysis of Bill of Materials (BOM)*

PT X for Classifying Raw Material Consumption Costs into Activities Bill of Materials (BOM) is an information resource center in the form of a complete list used to produce a product that contains all components such as raw materials, spare parts, and instructions needed including quantity, units of measurement, and its origin. BOM is used in various industries including manufacturing to ensure all required materials are available before production. BOM is able to estimate the total production cost of a product, and manage inventory levels. The needs of each PT X business unit can be obtained from the BOM so that it can calculate the total value of raw material needs or consumption for each business unit. BOM at PT X can provide information in the form of:

1. Types of raw materials and packaging materials
2. Quantity of raw materials and packaging materials
3. Type of foreign currency and exchange rate used when purchasing
4. Purchase price of raw materials and packaging

From the BOM the use of raw materials and packaging in each business unit describes the type of raw material, quantity used, type of currency, price and exchange rate so as to produce the total consumption of raw materials and packaging needed by each business unit.

4.2.3. *Analysis of Finished Goods Import Costs*

PT X to Classify Import Costs of Finished Goods into Activities After obtaining the total consumption of raw materials and packaging, a calculation of the need for imported finished goods will be carried out because each business unit has products obtained from imports of finished goods which can be sold directly domestically. The quantity of goods imported is obtained in tons and the costs incurred for importing these goods are obtained in Rupiah units which are the result of the translation of foreign currencies used to purchase goods, so that the difference in exchange costs that appear can be used as an additional component for the allocation of difference in exchange costs to business units. In table 2 details of the quantity of imported finished goods and costs incurred in Million Rupiah are shown.

**Table 2.** Quantity and Cost of Import of Finished Goods PT X Year 2021

<b>Business unit</b>	<b>Quantity in Tons</b>	<b>Import Value in Million Rupiah</b>
Sterilized Milk	3.157	76.118
Sweetened condensed milk	1.286	19.224
Milk powder	-	-
<b>Amount</b>	<b>4.443</b>	<b>95.342</b>

4.2.4. *Results of the Application of the ABC Method in Calculating the Allocation Basis*

The cost of consuming raw materials and the cost of importing goods that have been obtained, can be summarized by business unit to see the total costs required for each business unit.

The total consumption of raw materials plus the total costs incurred for importing finished goods will result in a new proportion to be used as the basis for the allocation of foreign exchange costs at PT X. Based on the data in Table 3, Powdered Milk gets the most allocation from MSK raw materials because it requires sufficient quantity as much as 13,152 tons and had a fairly expensive price of USD 2.765/ton equivalent to Rp. 513.075 million if multiplied by the USD/IDR exchange rate of 14.351 at that time. Compared to Sterilized Milk, the main raw material needed for fresh

milk is purchased using Rupiah, so Sterilized Milk does not need foreign currency to buy its main raw material. Sterilized Milk gets an allocation of foreign currency costs from MSK raw material needs which are supporting needs for producing sterile milk. Apart from the need for raw materials, the sterile milk business unit also imports finished goods, which are purchases of different types of sterile milk from those produced by themselves. With the import of finished goods, the sterile milk business unit gets a portion of the foreign currency cost allocation because the import of these goods uses the USD exchange rate. The need for imports of finished goods during 2021 is 3.157 tons, equivalent to IDR 76.118 million when multiplied by the USD / IDR rate at that time. The total consumption of raw materials and imports of finished goods from each business unit will result in the contribution of each business unit to the total company,

**Table 3.**PT X Consumption of Raw Materials and Finished Goods in 2021

Business unit	Raw Materials & Finished Goods Needs in 2021 (in Million Rupiah)			% Contribution with the ABC method
	Raw material	Finished goods	Amount	
Sterilized Milk	92.315	76.118	168.433	15.1%
SKM	163.276	19.224	182.500	16.4%
Milk powder	761.591	-	761.591	68.5%
Amount	1.017.181	95.342	1.112.523	100.0%

4.2.5. Comparison of Basic Allocation with the ABC Method

In running a company, a management control system is needed which is useful as a process, tool, and procedure that helps the company to monitor, measure, and control its performance against its goals and objectives. Having a control system in place can help a company operate efficiently and effectively while also adhering to legal and ethical standards. The allocation of foreign currency used by PT X is currently using a year's sales plan, whereas by analyzing the consumption of raw materials and imports of goods according to the portion needed to produce a new allocation that is more accurate and shows a more precise proportion because the cost allocation is based on usage. raw materials and imports of finished goods using foreign currencies from each business unit in table 4.

**Table 4.** Comparison of Allocations with the ABC Method and Sales Targets

Business unit	Allocation using the ABC method (in Million Rupiah)				Allocation with Sales Target(in Tons)		Variances
	Raw material	Finished goods	Amount	%	Amount	%	
Sterilized Milk	92.315	76.118	168.433	15.1%	161.292	62.2%	47.1%
SKM	163.276	19.224	182.500	16.4%	64.967	25.1%	8.7%
Milk powder	761.591	-	761.591	68.5%	33.009	12.7%	-55.7%
Amount	1.017.181	95.342	1.112.523	100.0%	259.268	100.0%	

Based on the data in Table 4, significant changes were shown in the sterile milk and powdered milk business units, while the sweetened condensed milk business unit experienced an increase but not significantly. These changes can affect product profitability and lead to wrong strategy and decision making by the company. The decreased allocation to the sterile milk business unit occurred because the main raw material for producing sterile milk was fresh milk. Purchasing fresh milk uses the rupiah currency so that if it is calculated using the ABC method, fresh milk does not contribute to the total consumption of imported raw materials so that it can reduce the percentage allocation to the sterile milk business unit. In this business unit, the components that influence the allocation percentage are imports of raw materials in the form of MSK, which is a supporting raw material in the production of sterile milk, so the quantity needed is not as much as MSK needed by powdered milk. Apart from importing raw materials, the sterile milk business unit also imports finished goods to be sold directly domestically. This import of finished goods can increase

the percentage of the allocation of foreign exchange costs because the import of goods uses foreign currency. Therefore, the component that builds the cost allocation for foreign exchange difference units for the sterile milk business unit is the import value of MSK raw materials and the import of finished goods for sterile milk which, when added together and compared to the company's total consumption, produces a lower value of IDR 168.276 million, equivalent to 15.1% of the total consumption of PT X. The sterile milk business unit also imports finished goods to be sold directly domestically. This import of finished goods can increase the percentage of the allocation of foreign exchange costs because the import of goods uses foreign currency. Therefore, the component that builds the cost allocation for foreign exchange difference units for the sterile milk business unit is the import value of MSK raw materials and the import of finished goods for sterile milk which, when added together and compared to the company's total consumption, produces a lower value of IDR 168.276 million, equivalent to 15.1% of the total consumption of PT X. The sterile milk business unit also imports finished goods to be sold directly domestically. This import of finished goods can increase the percentage of the allocation of foreign exchange costs because the import of goods uses foreign currency. Therefore, the component that builds the cost allocation for foreign exchange difference units for the sterile milk business unit is the import value of MSK raw materials and the import of finished goods for sterile milk which, when added together and compared to the company's total consumption, produces a lower value of IDR 168,276 million, equivalent to 15.1% of the total consumption of PT X.

The decreased allocation to the sweetened condensed milk business unit is the impact of protein consumption because it has the largest quantity to produce sweetened condensed milk and uses the Euro currency, so that even though the price of protein is cheap, it is influenced by high foreign currency exchange rates, namely IDR 17.091 causing the high contribution of protein consumption in sweetened condensed milk. In addition, sweetened condensed milk products also require MSK, as is the case with sterile milk, MSK has a fairly expensive price accompanied by an expensive USD/IDR exchange rate. The sweetened condensed milk business unit also imports finished goods. The need for imports of finished goods for one year is 1.286 tons, equivalent to Rp. 19.224 million. The need to import goods will also affect the allocation of foreign exchange differences because the purchase of these goods uses foreign currency. The component that builds the cost allocation for the difference in exchange rates for the sweetened condensed milk business unit is the import value of protein raw materials and MSK as well as imports of finished sweetened condensed milk which, when added together and compared to the company's total consumption, produces a lower value of IDR 182,500 million, equivalent to 16.4% of PT X's total consumption. The low total consumption of imported raw materials and finished goods from the two business units will result in an increase in the allocation portion for the powdered milk business unit.

However, this high allocation was also influenced by the high consumption of imported MSK raw materials in the milk powder unit, the same as the other two business units, MSK has high prices and the USD/IDR exchange rate is also high, plus MSK is the main raw material for producing powdered milk. so MSK needs the most quantity. Another component is the consumption of lactose in the powdered milk business unit. Unlike other business units, powdered milk requires a large quantity of lactose, although the price is cheaper than MSK, due to the high quantity required, lactose also contributes to the high allocation of foreign exchange costs to the powdered milk business unit. The import of finished goods is not carried out by the powdered milk business unit because the goods sold by the powdered milk business unit can be produced domestically. So that imports of finished goods do not add to the contribution of the allocation of foreign exchange costs in the powdered milk business unit. Therefore, the total consumption of imported raw materials for the powdered milk business unit amounted to IDR 761.591 million, equivalent to 68.5% of PT X's total consumption and if the sum of the three business units, would be 100% as the company's total portion.

#### *4.9 The Impact of Using the New Allocation Basis on the Profitability of PT X*

PRO accounts are included in fixed costs so they are not affected by sales quantity. Based on Table 4.2. which describes the income statement of each business unit. The total costs in the PRO accounts of the three business units are IDR 106.721 million and the allocation for each business unit can be seen in Table 5.5. Significant changes in the sterile milk and powdered milk business units greatly affect the profitability calculation errors. The profitability of the sterile milk business unit, which initially was IDR 7.206.004 million due to a smaller allocation, the profit increased by IDR 50.234 million so that the new profitability was IDR 7.256.238 million. In the Sweetened Condensed Milk business unit, the initial profitability was Rp. 771.733 million because it received a smaller allocation, the profit increased by Rp. 9.235 million so that the new profitability is IDR 780.969 million. The profitability of the powdered milk business unit, which was originally Rp. 1.394.700 million due to a larger allocation, resulted in a decrease in profit of Rp. 59.470 million so that the new profitability was Rp. 1.335.230 million. The powder milk business unit appears to have high profitability, but due to improvements in the cost allocation system, the profitability has been

eroded and is inversely proportional to the sterile milk business unit. Sterile milk business units that use the main raw material in Rupiah, get a smaller allocation of foreign exchange costs. then the profit has decreased by IDR 59.470 million so that the new profitability is IDR 1.335.230 million. The powder milk business unit appears to have high profitability, but due to improvements in the cost allocation system, the profitability has been eroded and is inversely proportional to the sterile milk business unit. Sterile milk business units that use the main raw material in Rupiah, get a smaller allocation of foreign exchange costs. then the profit has decreased by IDR 59.470 million so that the new profitability is IDR 1.335.230 million. The powder milk business unit appears to have high profitability, but due to improvements in the cost allocation system, the profitability has been eroded and is inversely proportional to the sterile milk business unit. Sterile milk business units that use the main raw material in Rupiah, get a smaller allocation of foreign exchange costs.

## 5. Conclusions

As a multi-product manufacturing company that has the majority of transactions using foreign currencies in its production and business processes, PT X has a risk of foreign exchange costs. At PT X, foreign exchange costs are allocated to the Production Related Overhead (PRO) account. The cost of exchange differences is included in the indirect cost, so it requires an allocation basis so that it can be charged to products. However, PT X has problems in allocating these costs because the current allocation, namely the sales target, is considered disproportionate. This assessment was obtained based on initial interviews with the management of PT X. Therefore,

This research was conducted by identifying and classifying activities. The next step is to apply the ABC method to the results of the identification and classification of foreign currency payment activities. The results of the implementation of the ABC method will produce a new allocation base for allocating foreign exchange costs. The new allocation base has been validated by PT X by comparing the implementation of the new allocation base with the old one and to see the impact on the company's profitability. The results of the study show that determining the basis of allocation using the ABC method can produce a more accurate allocation because the allocation is determined according to the consumption of production raw materials using foreign currency and the cost of importing finished goods.

Thus, the basic proposal for proper allocation in order to increase the accuracy of product profitability is formulated by conducting an analysis of the Bill of Materials (BOM) to determine the amount of consumption of imported raw materials and imported finished goods from each business unit. In addition, changes in the basis of allocations are made every time there is a change in the BOM so that the basis for allocations is always updated based on current conditions. For Conclusions, the main conclusions of the study may be presented in a short Conclusions section, which may stand alone.

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