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Analyze and Measure the Joint Costs for Making the Short-Term Decision and Performance Improvement - Applied Study

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Abstract :The goal of this study is to precisely identify the common costs, which will then be used to select the best way to allocate common costs across common goods based on a set of requirements or standards and to ensure the calculation of the costs of these products accurately, as the research dealt with the knowledge pillars of common costs represented by common products, incidental products and the point of separation the Qadisiyah dairy factory one of the Formations of the Ministry of Industry and Minerals, for the fiscal year ending on December 31, 2022, in addition to the role of the expenses and methods of distribution to the products participating in the process of rationalizing administrative decisions. The most significant finding of the study was that it was possible to ascertain the common costs of the factory sample research and then apply them to the common products this data could be utilized to accurately calculate the costs of common products and justify the particular product of those products without the emergence of other products in the group process.

Keywords: Short-Term Decision, Scientific and Technological Development, Manufacturing, Common Products, Incidental Products.

1. INTRODUCTION

Numerous subsequent adjustments and advancements that have followed the contemporary production environment by scientific and technological development, the information revolution, communications, globalization and changing political, economic and social systems, which called economic units to create cost accounting techniques in order to fulfill their objectives related to control, planning, and decision-making. The costs of common products or the costs spent producing multiple products at once through specific products of those products without the appearance of other products in the group one are one of the challenging challenges faced by cost accounting and put forward its scientific and practical

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jurisprudence it or several stages of manufacturing, making it impossible to make one of those items without the other products also appearing products can also only distinguished at a certain step of the manufacturing process known of separation-common costs is defined as expenses resulting from manufacturing processes that produce several distinct goods. These costs cannot be immediately linked to specific types of these products; instead, they must be allocated among the common products in order to ascertain each product's portion of those costs.

2. RELATED WORK

2.1 Joint Products: Horngren noted that the term joint products is called two or more products that possess a relatively high selling value and cannot be separately identified as individual products until point of separation. (Horngren,et.al,1999:218). Al-Jubouri pointed out that common products are the main products of the production process, and each joint product has a basic selling value, so these products are called basic, main or primary products (Al-Jubouri, 2008: 362), and both Anthony and Reece defined common products as two or more dissimilar end products that are produced from one raw material or one production stage (Anthony and Reece, 1995:462). It was also defined as those products that are produced together by a single production process or series of production processes and using the same production inputs (materials, wages, indirect industrial costs) and each of these products has similar importance in terms of selling value, production cost achieved. Co-production comes from the fact that this type of production and in this way is for the best use of the resources available to the unit.

2-2 Incidental Products: There are several definitions of by-products, they are defined as products or outputs from the co-production process whose quantities are small or their net selling value is low when compared to joint products, and in other cases we find that the by-product may not arise from any industrial process, but rather from the process of preparing raw materials before they are used in the manufacture of the main product. Al-Jubouri pointed out that the by-products have a small selling value compared to the main product, such as cotton seeds in the yarn industry and tar in the oil refining industry (Al-Jubouri, 2008: 363) By-products have a higher selling value than the waste (Saidiya, 2001: 491) and the former appear as a result of intentional industrial processes while the latter appears as a result of poor production efficiency (Drury, 2002:185) i.e. additional operations on waste are undesirable because at most there is a loss (Garrison and Noreen, 2002: 694) In other words, incidental products may need costs after the break-up point while the residues are intended for sale at the break-up point. (Saidiya, 2001: 491). It is necessary to distinguish between joint products and by-products, as the selling value is the basis for distinguishing between joint products and by-products, when the products are of little value and do not represent the main purpose for which the industry was established, these products are called by-products. But if the selling value of all products is relatively high and they.

2-3 Break-Off Point: Hilton defined a split-off point as that point in the co-production process at which co-products become separate and recognizable products. (Hilton, 1999:580). Zimmerman defined the point of separation as the point of the industrial process

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in which all common costs have occurred. It was also stated that costs after the break-up point were separate from the cost of co-products and occurred only in the case of additional manufacturing of products. (Zimmerman, 1997:382) is the stage in the manufacturing process where every product is seen as unique. Some products require more steps to achieve the ultimate marketable form, while others may be manufactured in a completed form that is ready for sale at this point. (Noreen &Garrison, 2002. 693).

2-4 Joint Costs: Joint costs are characterized as expenses for materials and conversions incurred prior to the moment of separation. Morse et al. (2002) p. 138. It was also described as the expenses incurred by manufacturing processes that yield multiple distinct products and that are therefore not directly attributable to specific product types; rather, they must be divided among the fundamental common products in order to ascertain each product's portion of those expenses; alternatively, it is the expenses incurred by manufacturing processes that yield multiple products, encompassing not only the cost of materials but also the costs of transforming raw ingredients into finished goods. It comprises all must be allocated to common goods that fall before the breakdown cost of direct materials, the cost of direct salaries, and other indirect industrial expenses are the components of costs required for the production of common goods. The following paragraphs will provide clarification on these components: resources: The term "direct materials" refers to a class of raw materials that are easily recognized and added straight to a particular product; these materials often have a connection (Edmonds,et.al,2003:203).

2-5 Methods of Distributing Common Costs: Due to the significance of allocating shared costs and their crucial role in the decision-making process, as well as the variety of distribution techniques accessible in accounting theory, selecting and favoring one of them proved to be a difficult task. As a result, allocating these expenses to the joint goods use subjective judgmental methods that in one way or another affect the final cost of each joint product, and may also negatively affect the cost information that must be available for control and decision-making purposes. There are several ways to approaches allocate shared expenses to common products, may be categorized into three primary approaches that base their distribution strategy on the selling price. techniques that use numerical requirements as the foundation for the distribution procedure. techniques where the distribution is based on predefined rates process.

2-6 The Role of Shared Cost Methods in the Decision-Making Process: it as according to the following: (Al-Balki, 2006: 55-56)
First: Decisions to evaluate the stock of joint products for the purposes of internal and external reporting: The best costs that can be taken as a basis for evaluating inventory and determining the cost of sales for each common product are the total production costs of that joint product, which consists of the producer's share of the common costs plus the additional manufacturing costs of that product, and accordingly the costs of joint production them as well as the total production costs must be distributed So the joint product between sold production and unsold production. Multiplying the average unit cost (the result of dividing the by the amount of remaining inventory gives us the cost of inventory, and multiplying this average by the number of units sold, we get the cost of sales. From this, it is clear that the

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distribution of common costs plays a major role in valuing inventory and determining the cost of sales. This role undoubtedly depends on the objectivity of the method used in distribution and its suitability to the nature of the common products and to the conditions of the economic unit.

Second: Pricing decisions of joint products: Pricing decisions are the unit, as it is its responsibility to determine the prices of its products to maintain its continuity. The following: In the case of perfect competition and in the case of incomplete competition, in complete competition, there is no pricing problem because prices are determined by the market and the economic unit must sell its products at those prices, otherwise it will not sell anything. In such a case, the relationship between cost and price would be reversed, as price would be used to determine the cost and not the other way around .That is, pricing decisions can vary significantly in their time dimension or content, and therefore there is no single method of calculating the cost of a product that is generally appropriate for making pricing decisions, that is, management can use different measures of product cost and in a way that is useful in making different pricing decisions. (Horngren et al., 1996:662).

3. METHODOLOGY AND MATERIALS

3-1 The Research Problem: he failure to adopt the accurate identification of the elements can lead to a research problem in determining common costs, which are then distributed to common products those costs and choose the inappropriate way to distribute them to common products will lead to loading some common products at low costs because part of what should have been It bears costs that have been wrongly charged to other common products whose cost has appeared to be at a higher level, which does not help in giving the true picture of the costs and profits of the economic unit.

3-2 Research Objective: The objective of this study is to precisely ascertain the common costs, after which certain criteria will be used to select the best approach for allocating common expenses to the common products and to ensure the calculation of the costs of these products accurately.

3-3 The Significance of Research: Relevance stems from methods that fairly allocate such expenses to shared goods, which have a major role in reaching a sound measurement of the costs each joint product without charging it with costs that did not benefit from its services for the inventory and determining the income of the session, i.e. for the purpose of preparing financial statements, as well as assisting management in the decision-making process.

3-4 Research Hypothesis: The research is based on the basic premise that (determining common costs and choosing the appropriate way distribute them to common products helps management make rational decisions).

3-5 Research Methodology: The research depends on the descriptive approach in presenting and studying the researchers' published contributions represented in books, periodicals, theses

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and university theses testing its hypothesis, as well as the use of the analytical method in studying the data of the research sample.

3-6 Study Specimen: This factory meets the needs of customers of dairy products, as the factory is currently facing in the field of quality and price, as well as the need for management to identify new methods to achieve the maximum possible contribution return, and this 31/12/2022.

4. RESULTS AND DISCUSSION

The (QDF) Al-Qadisiyah Dairy Factory organizes its accounts using a unified accounting system; either the factory's adopted cost system is the real cost system, representing Each stage is a production center, after receiving raw milk by the receiving center, it goes through the following production stages:

1. **Sorting and Standardization Stage**: The stage of sorting and standardization is the starting point quality control department such as checking the percentage of fat, checking acidity, examining solids, examining methylene and others.
2. **The Stage of Manufacturing Sterilized Milk and Inlaid Milk:** After the end of the sorting process, the sorted milk is sent to the milk tank, where the milk is unified on 0.15% of the fat and then sterilized at a temperature of 140 ° C for 15 seconds inside a heat exchange device, and then the milk is pumped to the naturalization device under a temperature of 50-60 (C) and then cooled to a temperature of 35 (C) and then sent to the milk tanks and from there to the filling device.

In order to measure the common costs that arise within the screening and standardization stage, and common products of factory, imposing control over them and providing the necessary information for decision-making, the cost elements different components in phase are as follows :

1. **DM. Costs:** The primary ingredient used in the factory's products is raw milk, which is introduced at the start of the sorting and standardizing process. Since it accounts for the majority of production expenses at this point and the cost of direct materials during the sorting and consolidation stage is one of the most significant aspects of production in the plant 35435378IQD.
2. **DL. Costs:** This item shows the overall compensation that employees got for their efforts at this point since it reflects the wages immediately spent on the sorting and consolidation step. There are 19 employees in the screening and unification phase, and their salary is 9815300 IQD.
3. **FOH. Costs:** the sorting and standardization stage came to in the following: rewards, fuel, spare tools, supplies, tasks, clothing, water, electricity, and maintenance. These costs are used to determine the direct classification and standardization stage, which represents common costs between producers sterilized milk and grafted milk4585722IQD. it is required to distribute these costs among the producers involved in the production process represented by sterilized milk and grafted milk, and the quantitative method will be relied upon for the following reasons: Selling prices fluctuate from period to period due to several reasons, including internal (such as management decisions) or external reasons

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(such as the dynamics of supply and demand). Since there are still manufacturing processes beyond the moment of separation, which means that all of the factory's common goods cannot be sold without them, it is unknown what the manufacturers' selling prices were at that time The sum of milk produced is 198 tons, of which 121 tons are sterilized milk, while the grafted milk is 77 tons, and the details of the common costs during the sorting and standardization phase were as follows: Direct materials..... 35435378 dinars direct wages ..... 9815300 JOD M R G directly..... 4585722 JD

The common costs will be distributed to both producers on the basis of the relative production of the quantity of each product and as follows: The share of each product of the common costs = common costs × the relative production of each product The share of sterilized milk = 49836400 ×(121 ÷196) = 30766348 dinars The share of the flavored milk = 49836400 ×(77 ÷196) = 19070052 dinars. The second and final stage, which consists of two production lines, is entered after the sorting and standardization stage is finished in order to manufacture of sterilized and infinite milk. Through these two lines costs product be calculated the special costs of the restaurant milk coming to 25426500 dinars, and the special costs of the sterilized milk coming to 20655744 dinars following table helps to clarify each product's common expenses as well as its unique costs.:

Table (1)Common-costs and private costs for producers of sterilized milk and fortified milk

Details	Infused milk	Sterilized milk
His share of shared costs	19070052	30766348
Own costs	25426500	20655744
the total	44496552	51422092

Based on the previous table, the following can be reached: The cost of one ton of UHT milk is 424976 dinars (425 dinars per kg). The cost of one ton of inlaid milk is 577877 dinars (578 dinars per kg). The selling prices of the producers are as follows: Sterilized milk: 350,000 dinars per ton (350 dinars per kg). Inlaid milk: 450,000 dinars per ton (450 dinars per kg). dairy factory after determining the share of each product of the common costs in addition to its own costs, and after identifying the selling prices of the producers, the total cost of both products was reached during the year follows:

1. Decision to Evaluate The Stock of Common Products for the Purpose of Preparing the Financial Statements: After reviewing the researcher's records of the factory, it was found that the Financial Accounts Division evaluates the inventory on the basis of the selling prices specified for it by the General Company for Dairy Products, and this leads to the recognition of profits and losses before they are realized and thus charged to the production period and not to the period in which the sale takes place. Therefore, this procedure is incorrect accounting department or division in the factory. After reaching the cost per It is noted that in order to determine the cost of common products, we did not separate the from units sold because the benefited from all cost elements common and added Instead, the entire production stock for the most recent period will be evaluated on the basis of that cost in the

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first part of this section, which of each joint product conclusion of each product's period, the amounts produced, sold, and residual stock quantities must be ascertained in order to assess the inventory and calculate the overall profit or loss for each common product. This is because each product has a is mine...

2. Pricing Decisions for Joint Products: The General Company for Dairy Products relies on the total industrial costs plus a profit margin in order to cover non-industrial costs and achieve a target profit from each product as a basis for pricing its products. Where the company's products, including the products of the research sample factory, are priced by the pricing committees based on the cost lists prepared by the cost accounts department and consolidated at the level of the company as a whole. That is, the selling factory sample of the research) are uniform at the level of all factories belonging to the company. On the other hand, we find that the company's pricing objective above is to offer dairy products to citizens at low prices with a small profit margin that ensures their continuation in the market .
It should be noted here that the researcher was unable to determine new selling prices for the products of the Mosul Dairy Factory due to his inability to determine or obtain the target profit ratio (profit margin from total costs) for each product approved by the company. The importance of common cost distribution methods (material quantity method, material production units method) in making and making pricing decisions is evident through the important role these methods play in determining the detailed data and information on the costs of each joint product, which enables us to make pricing decisions after determining the added costs after the separation point and by choosing that price that the total profit for each joint product is sufficient to cover non-industrial costs and achieve the target profit.

Discussion

a. Common products are those products that are produced together by a single production process or a series of production processes and using the same production inputs (materials, wages, indirect industrial costs) and each of these products has similar importance in terms of selling value, cost of production or profit achieved. By-products are all products that appear accidentally during or because of the production of a major product, or that are made from the residues that remain from this production, such as molasses that lags behind the sugar industry. Incidental products are those products that arise in an emergency (not targeted) manner from the production process of joint products, or that are manufactured from the waste that remains from this production, or that arise from the process of preparing materials before the start of the production process, and their prices and quantities are low compared to common products and therefore the profits that may result from them are much less than the profits that may normally result from joint products.

b. Common expenses are incurred during manufacturing processes that produce a variety of goods that are not easily linked to certain product kinds, and as a result.

c. There are several ways to distribute common expenditures for common products and these techniques have been categorized into three primary groups: techniques that rely on the selling price as a foundation for the distribution process; techniques that rely on quantitative specifications as a foundation for the distribution process; and techniques that rely on rates that are predetermined.

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5. CONCLUSION

There plays a part in the procedures for allocating common expenses while making these decisions, so the following decision may be used to split decisions pertaining to common items. to evaluate the stock of common products for the purpose of preparing financial statements and pricing decisions for common products.

a. The need to pay attention to the way to distribute the common costs to the common correctly will yield the highest profits when combined with common products to prepare financial statements.

b. Necessity of utilizing common cost data, particularly when decisions about the decision-making as common costs and distribution strategies for common products can be utilized in decisions how best to price common decide how them, decide to sell them, decide whether to continue manufacturing them or not, and decide which production mix ratios.

c. Create a cost of system for the set up a dedicated cost accounts division in the factory that is appropriate for the size and significance of the factory, and handle its own tasks of recording, gathering, data pertaining to cost elements before providing the factory management with comprehensive reports. Planning budgets and standard expenses for all industrial activities will be created by this section.

d. Preparing a list of revenues and costs for each product or for each production center) separately and in a way that shows the extent to which each product contributes to covering fixed costs industrial or non-industrial and then preparing a list of revenues and costs at the level of The factory as a whole in light of the revenue and cost lists of each product to show the total profit of the factory.

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