

[The Role of Material Flow Cost Accounting (MFCA) Technology in the Implementation of Cost Leadership Strategy

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Abstract

The aim of the research is to address the lack of efficiency in the flow of materials and energy during the production processes to reduce the generation of environmental influences during the production processes and after the consumption of products by customers, as the problem is the lack of use of modern technologies for most economic units and this leads to the waste of large amounts of materials and energy and lack of interest in environmental influences, as the technique of accounting for the costs of material flow is one of the best techniques through which efficiency can be achieved with material and energy flows starting from pickles to outputs It was able to reduce the material losses that are generated during the production processes as well as identify the places of weakness and imbalance that lead to the waste of materials and energy and work to address them and this leads to the leadership of the cost and create a competitive advantage for the economic unit through the production of low-cost and high-quality products and thus leads to reducing prices and the demand of customers to request them, and in order to test the hypothesis of the research, the factory of Diwaniya textiles was selected sample for research in order to identify the role of cost accounting technology Material flow in the implementation of cost leadership strategy which helps the plant to achieve many of the Competitive Advantages.

Keywords – Material Flow Cost Accounting, Competitive Advantages, Cost Leadership Strategy

Introduction:

After the rapid developments and changes in the modern business environment in all economic, environmental and social fields, it was imperative for economic units to produce products characterized by high quality and low cost, all these developments led economic units to search for modern technologies and methods to face these changes and developments to rise to the leading economic units to achieve competitive advantages and that the technology of accounting for the costs of material flow is one of the modern technologies that are able to meet the challenges of competition and respond to the aspirations of economic units in the leadership of Cost through reducing the cost and improving the quality of products because of their ability to reduce the use of material and energy flows and reduce waste and provide information that helps the economic unit in the production of high quality products by excluding activities that do not add value as work is done to find ways of improvement to raise the quality of the positive product and reduce its cost and seek to reduce the negative product and work to get rid of it This helps the economic unit to keep pace with modern developments because of the economic and

environmental information it contains where it is A competitive advantage that helps it to continue in the environment of the world.

First Section; Research Methodology

1 . The Problem of Research

Due to the recent developments in the business environment, it has become necessary for economic units to search for advanced techniques and methods focused on the strategy of cost leadership, reducing the use of resources and reducing defective products, as any production process is not without problems that cause the high cost of the product and affect its quality, so the economic units seek information to avoid that problem and based on the above can be formulated the problem of research with the following question

Is there an effective role for material flow cost accounting technology in the implementation of the cost leadership strategy?

2 : Research Objective

The research aims to present the technology of accounting for the cost of material flow as one of the modern techniques in strategic cost management and to demonstrate its role in the implementation of the cost leadership strategy.

3. The importance of research

The importance of the research highlights the importance of the technology of accounting for the costs of material flow and its strategic role in the success of the unit's implementation of one of the general competition strategies in a way that helps to gain a competitive advantage that distinguishes it from competitors to achieve customer satisfaction with high quality products and low cost as a result of its success in cost leadership.

4 . Research Hypothesis

The research is based on the premise that material flow cost accounting technology has a strategic role in the successful implementation of a cost leadership strategy.

5 . Research Methodology

The inductive approach was relied upon by reviewing and analyzing studies related to the research topic and the descriptive approach to describe and analyze the reports and data of the economic unit to reach conclusions that support the research.

6 . Previous Studies

- 6.1. Study (Yogi & Kokubu, 2018) Managing the flow of materials for companies in Thailand The way to accounting for the costs of material flow: The study aimed to analyze the characteristics of the flow of materials as a tool to expand the use of accounting for the costs of the flow of materials and their money from the role in determining the total cost of wasted materials, waste and materials recycled after production processes and the most important thing that the study reached from the conclusions that the use of the system of accounting for the cost of material flow has a great role in showing efficiency and effectiveness in the use of materials and reducing waste in the Materials and waste treatment enable the maintenance of entire supply chain management as it provides internal incentives to employees and helps them reduce waste and waste of materials.
- 6.2. Study (Doorasamy et al, 2017) The effectiveness of material flow cost accounting to improve the quality of sucrose in sugar cane production The study aimed to demonstrate the effectiveness of material flow cost accounting and its use as a tool to improve the quality of sucrose in the production of sugar cane South Africa The study reached a set of results among which was that the efficient use of

material flow cost accounting enables economic units to improve their profitability as well as improve the effectiveness of resource use as this system classifies production costs into four Categories of costs of materials, system, energy and waste thus enabling economic units to reduce costs related to the negative product.

- 6.3. Study (Rima Hossam Jaafar, 2011) The use of the cost leadership strategy and its impact on the strategic quality management of electrical companies in Jordan. The study aimed to reveal the extent of the use of the cost leadership strategy in the electrical industry companies in Jordan and its impact on the strategic quality in these companies and the study concluded that the level of importance of using the cost leadership strategy in the electrical industry companies in Jordan is high and there is a statistically significant effect of using the cost leadership strategy on the strategic quality management combined And on its individual dimensions at the level of (0.05).

7 . Limits of Search

- 7.1. Spatial Boundaries: - The General Company for Textile Industry / Ready-made Garment Factory in Najaf Al-Ashraf was selected under the Iraqi Ministry of Industry and Metal and this research sample was selected from the effects left by this sector on the environment.
- 7.2. Temporal Limits: - The laboratory reports for the year (2021) were relied upon, which is the latest financial reports and statements.

Second Section: The theoretical framework of the technique of accounting for the costs of material flow

1 . The concept of accounting for the costs of material flow

The concept of material flow cost accounting was standardized internationally when this standard was published, as it contributed to the adoption of its use very significantly. The standard shows the method of calculation, the basic concept and the executive steps of material flow cost accounting (M F C A) and the main purpose of the standard is to show the principles of material flow cost accounting (1)

Material flow cost accounting has been defined as "one of the tools of environmental management accounting, through which the management can obtain accurate information on the size of the loss, which usually occurs during the production process, by following up the flow of materials used in this process starting from the stage of purchasing raw materials from suppliers as inputs to the production process and through the operational processes and ending with the outputs, where the material flow cost accounting system calculates energy, energy costs, waste management costs and system costs. In order to provide the management of the economic unit with information on two types of products: the first type is the positive product that the economic unit seeks to obtain, while the second type is the negative product, which the management of the economic unit seeks to obtain information that enables it to make decisions in order to reduce or get rid of it permanently (2)

The economic unit introduces many natural resources as inputs when starting the production process and materials are one of the most important of these resources because of their scarcity and high cost and therefore require their efficient management and that the accounting of the costs of the flow of materials controls and follows up the flows of materials during the production processes as well as the follow-up of waste that accumulates as a result of inefficiency in the flows of materials such as "damaged materials" received from the processor and materials that are damaged in stores, impurities, detergents and solvents to wash the equipment and the remaining scraps after the end of Processes and materials remaining in the equipment (3)

There are three constituent parts to account for the costs of material flow, which are as follows:(4)

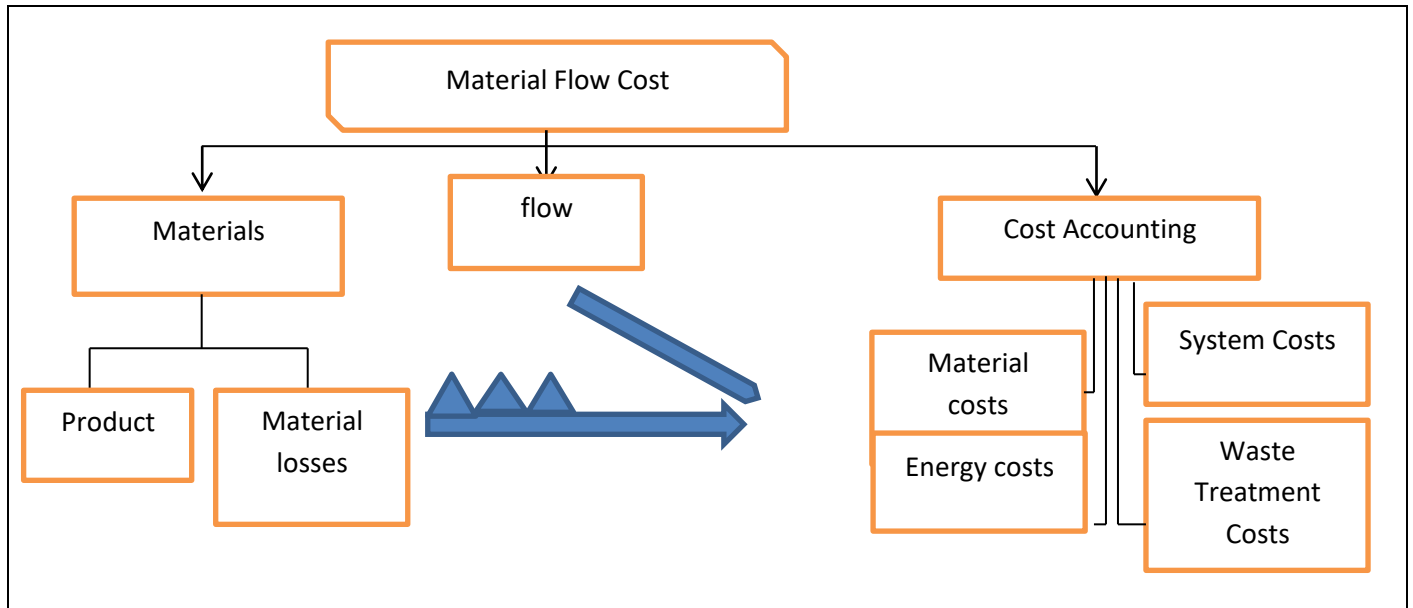
- 1.1. Cost Accounting: Material flows are tracked under the concept of accounting for the costs of material flow and quantified in physical units such as mass and volume and then assign associated costs which are divided into material costs, system costs, energy costs and waste management costs.
- 1.2. Flow: Material flow cost accounting tracks all material inputs flowing through manufacturing processes and measures products and material losses in physical units using the following equation:

$$\text{Inputs} = \text{Products} + \text{Material Loss (Waste)}$$

1.3. Materials: Materials refer to any raw material, auxiliary material, catalyst or part used in the manufacture of a particular product, and materials that do not become part of the final product are material losses where in any manufacturing process there are material losses and in various steps including loss of materials during processing, impurities, defective products, materials remaining in manufacturing equipment after installations auxiliary materials such as solvents, detergents for washing equipment, water and others.

The concept of material flow cost accounting consists of three main concepts as in Figure (1)

Source Rahayu,Siwi Dwi and Arieiyanti, Dwi and Hadiyanto, (2018), Preliminary Design of Industrial Symbiosis of Smes Using Material flow cost accounting (MFCA) Method, E3S Web of Conferences,PP.1-7 .



2 . The importance of accounting for the costs of material flow

In many economic units, reducing environmental impact is a very expensive strategy, however, accounting for the costs of material flow on tracking waste, emissions and non-commodity products and providing information about them can serve as a catalyst for economic units in the search for opportunities for improvement that help enhance economic and environmental performance at the same time.(5)

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2.1 Economic level: - Accounting for the costs of material flow focuses primarily on the cost of materials being a very important element in industrial economic units compared to others, under traditional accounting systems there is not enough and detailed information about the cost of materials and how they pass through the economic unit, while under the technique of accounting the costs of material flow, the costs of materials are clarified more accurately by linking physical units with financial units.

2.2. Environmental level: - The technology of accounting the costs of material flow focuses on reducing the cost by reducing the quantities of materials and energy consumed, which results in this reduction positive environmental effects as the use of materials and energy better would reduce waste and emissions that affect the environment, so the technology of accounting for the costs of material flow is very important for management through which to maximize economic efficiency and improve environmental benefits .

3 . Benefits of accounting for the costs of material flow

Material flow cost accounting contributes to a range of benefits, including the following:(7)

- 3.1. Problem Identification: Material flow cost accounting helps to verify the existence of undetectable economic losses using traditional methods that focus on the financial aspect while the technology of accounting for the cost of material flow highlights physical and financial losses enabling it to reduce losses.
- 3.2. Identify points of improvement: The economic units are aware of the material losses, but they do not carry out any improvement operations under the traditional system, as the cost accounting of the flow of materials helps the economic units to carry out improvement by identifying and tracking waste and waste for material flows and working to reduce them.

4 . Classification of costs according to the accounting of the costs of the flow of materials:

Costs are classified according to the accounting of the costs of material flow into four types as follows:

- 4.1. Material cost: includes all costs of main and subsidiary materials and auxiliary materials involved in the manufacturing process such as detergents, catalysts and others. (5)
- 4.2. Energy cost: includes all energy costs used within the quantity centers used by the economic unit for the processing of materials such as fuel and electricity costs and any other costs that affect energy (8)
- 4.3. System Cost: All costs incurred by the Economic Unit in the internal handling of material flows, whether these flows are raw materials, auxiliary materials, materials under operation or waste, excluding energy costs or waste management costs. (9)
- 4.4. Cost of waste management: are the costs that occur in the context of dealing with material losses within the quantity centers and are allocated to material losses only and include activities of repair of defective products, recycling operations, disposal of air emissions, wastewater and solid waste . (10)

5 . Enablers of accounting for the costs of material flow

There are many factors that help facilitate the implementation of material flow cost accounting and these factors include:

- 5.1. Technical Advantage of Material Flow Cost Accounting: This feature is the main enabling evidence in material flow cost accounting as it is defined as waste as a non-commodity product or a negative product that has its own costs and accordingly more accurate information of waste cost can be obtained through material flow cost accounting compared to traditional cost accounting . (11)
- 5.2. Data availability: Jasch (2009) and Nakajima (2008) found in their studies that economic units have data required to analyze the flow of materials for these units The availability of this data may avoid the need for key tasks of data collection, which helps to carry out the accounting of material flow costs more easily.(12)
- 5.3. Commitment of senior management: The participation of senior management and its commitment to environmental management accounting is an important factor in various cases of decision-making and empowerment, as there is a need for effective participation of different departments at all levels, without guidance and support from senior management, other departments may not be able to see how important it is to account for the cost of material flow for the economic unit.(13)

5.4. Compatibility of material flow cost accounting with existing management systems: One of the factors that help in the implementation of material flow cost accounting more easily is its compatibility and integration with the administrative systems located in economic units such as the Total Quality Management System and the Total Production Maintenance System. (14)

Section Three: Cost Leadership Strategy

1 . The concept of cost leadership strategy

The concept of cost leadership was developed by Michael Porter and is used within business strategies, where this concept describes the way to create and find the competitive advantage of the economic unit and the concept of cost leadership mainly indicates access to the lowest costs for the operations of the economic unit.(15)

The economic unit through the strategy of cost leadership takes the price as a competitive advantage against competitors as it works to determine the prices to sell products lower than the prices of competitors and achieve the greatest amount of profits and thus can achieve value for the customer and gain his satisfaction as the strategy of cost leadership aims to increase the value of the customer by seeking to produce a product less expensive is an effective and influential competitive entrance in markets that deal with many consumers who are sensitive to prices .(16)

Second: General Strategies and Market Forces

Economic units seeking the successful implementation of the cost leadership strategy must make significant efforts to reduce production costs compared to competitors' costs and create value for customers.

- 1.1. Provide and build effective standards and levels of services .
- 1.2. Establish control over production and indirect and additional costs .
- 1.3. Reduce sales costs, R&D costs of products and service costs .

Table (1)

General Strategies and Market Forces

Market Powers	General Strategies		
	Cost Leadership Strategy	Differentiation Strategy	Focus Strategy
Barriers to entry	Ability to lower prices to delegate the movement of potential new competitors	Customer loyalty will discourage potential new competitors' abilities	The development of a substantial wall can be an obstacle to new entrants
Powerful Suppliers	Gives more protection over the influence of suppliers	The ability to pass on rising supplier prices across customers	The ability to pass on rising supplier prices across customers
Buyers' Powers	The ability to offer lower prices attracts buyers	The ability to vintage higher quality attracts buyers	Reduce options and alternatives for buyers
Risks of alternative commodities	Using low prices to defend against alternative goods	Customers are associated with a certain quality that keeps them away from thinking about alternatives	Specialized goods and intrinsic capabilities protect against alternatives
Competition Risks	Better ability to compete based on price	Product loyalty keeps customers from turning to competitors	Competitors may not be able to meet customer needs to focus on

			differentiation
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Source :Porter, M, (2004), *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, New York, free press

2. Types of Porter's General Strategies

These strategies are of three types, which are as follows:

3.1. Cost Leadership Strategy:

This general strategy aims to reach production at the lowest costs within the industrial sector to which the economic unit belongs, where the unit sells its products within the prices of that sector and can earn higher returns from competitors, and when the unit sells its products below the average of that sector, it can gain a market share, even in the event of a price war, the organization can maintain some profits while intense competition inflicts some losses on competitors, even without price war, in mature sectors and a decrease in Prices Economic units can produce products at lower costs and will be able to maintain their profitability for a longer period of time.(18)

3.2. Differentiation Strategy:

This strategy is characterized by a set of activities carried out by the economic unit for the purpose of providing distinctive products with unique characteristics and rare features of the product during which value is provided to the customer.(19)

The objective of this strategy is to highlight a noticeable distinction on the products of the unit from other competitors, whether in technology, quality or price.(20)

3.3. Focus Strategy:

This strategy is based on the selection of a specific sector of the market, the economic unit under this strategy does not deal with the market as a whole, but rather divides the market into a number of sectors and focuses on a specific part of the market.(21)

4. Risks of Using a Cost Leadership Strategy

The cost leadership strategy is surrounded by a number of risks despite the positive and benefits of using it, including the following:(18)

- 4.1. Excessive focus on processes to gain the advantage of cost leadership may distract the economic unit from paying attention to changes in customer tastes and needs.
- 4.2. The emergence of new technological innovations by competitors that will end the advantage of cost leadership by reaching the lowest costs.
- 4.3. Competitors may be able to succeed from the tradition of the way economic unity in determining the value chain to reach the lowest costs and break the advantage of cost leadership.

Fourth Section: Applied Aspect

This section deals with an explanation of the research sample (General Company for the Textile and Leather Industry / Ready-made Garments Factory in Najaf Al-Ashraf) affiliated to the Iraqi Ministry of Industry and Minerals, as the factory is one of the important economic units in the country because it works on the

manufacture of high quality products that enable the achievement of a competitive advantage and therefore the topic will be addressed according to the following paragraphs:

1 . The date of construction of the ready-made clothing factory in Najaf Al-Ashraf:

The ready-to-wear factory in Najaf Al-Ashraf was established in 1980 and the actual production in the factory began in 1988, and the factory occupies a distinguished position in the General Company for Textile Industries, where the laboratory has made qualitative progress in the field of design and separation using the Kerberos electronic system, as well as obtaining the international quality certificate. In the year (2010) the Chinese project developed for the developed suit, which includes the civil suit with a production capacity of 400) suits per day, was opened, and this achievement is a qualitative development in the manufacture of the suit and its suitability for the new fashion. In the markets, also the addition of a hall for the production of the developed suit, a hall for the protective shield and helmet, a men's clothing project that has ISO certification from a Danish company and certificates from the Central Organization for Standardization and Quality Control. The factory employs more than (1700) workers from various governorates of the Middle Euphrates, and the factory has contributed directly to the supply of the ministries of interior, defense, health, higher education and scientific research with their ready-made clothes, as well as civilian clothes for various segments of society, and the factory contributed to the production of uniforms for Iraqi universities, this factory currently contains three thousand.

2 . The possibility of applying the role of the technology of accounting for the cost of material flow in the implementation of the cost leadership strategy:

The Diwaniya textile factory has some divisions that can help address economic, environmental and social aspects such as the Environment Division, the Quality Control Division and others, but these divisions do not provide any eloquence in the financial statements, so the researcher sees the possibility of gaining many competitive advantages through the improvement of environmental, social and economic indicators by relying on the technique of accounting for the costs of material flow and its role in leading the cost strategy and providing a comprehensive report on many indicators that will be improved and developed Through the following axes:

2.1.Environmental protection:

The most countries of the world have become inclined to protect the environment in economic units as a result of the environmental influences generated by these units if the industrial economic unit is nowadays one of the most sources of environmental pollution due to fumes, wastewater and waste that are generated in the production process and accounting for the costs of material flow addresses many indicators, including the environmental aspect and thus helps reduce costs and increase the competitive advantage of the economic unit.

2.2.Accounting for the costs of natural resource flows:

Natural resources are one of the most important problems facing economic units at present due to the scarcity of natural resources and the difficulty of obtaining them, as many of these resources are wasted during productive processes because most systems do not help to preserve them.

2.3.Develop and improve the environmental situation of workers and customers:

The economic unit shall maintain the health and safety of workers during production processes as well as their role in reducing environmental influences during the design of products in order to preserve the environment as well as requires the economic unit to develop environmental and social awareness of workers and customers, by

providing high quality products that are safe during use and free of environmental influences as well as providing guidance and instructions not to throw products after consumption in the form of environmental waste.

2.4. Improving the quality of products:

The provision of products of high quality enables the economic unit to excel and distinguish over competitors as the provision of products with high quality enhances the demand of customers for them and this helps the economic unit to expand in the market and this enables it to gain customer satisfaction so improving the quality of products is one of the important axes in the economic unit.

2.5. Maximizing profits:

The main goal pursued by most economic units is to maximize profits, so economic units have begun to change their productive policies and follow new technologies, as most economic units work to follow appropriate means of cost management and sale price management, as well as other policies that help economic units maximize profits, which are represented in ways to promote and market products.

According to the above, these axes can be improved and developed in the ready-made garment factory in Najaf Al-Ashraf by relying on the technology of accounting for the costs of material flow and its role in the strategy of cost leadership through the following:

Table (1)
Design and available capacities and planned and actual production of the ready-to-wear factory in Najaf Al-Ashraf for the years (2019-2021)

Percentage of actual production to: (%)			Actual production (unit)	Planned output (unit)	Available Power (Unit)	Design Power (Unit)	year
Planned production	Available Power	Design Power					
2019	926000	820800	400000	7884	%0.85	%0.96	%1.97
2020	926000	820800	400000	168	%0.02	%0.02	%0.04
2021	926000	820800	400000	52730	%5.69	%6.42	%13.18

Source: Preparation of the researcher based on the annual reports of the Planning and Follow-up Section.

It is clear from the above table that the ratio of actual production to design capacity for the years 2019, 2020 and 2021 (0.85%), (0.02%), and (5.69%) respectively, either the ratio of actual production to available energy for these years was (0.96%), (0.02%), and (6.42%) respectively, while the ratio of actual production to planned production for these years was (1.97%), (0.04%), and (13.18%) respectively, as shown by this table that the amount of actual production of the plant decreased significantly compared to the energy levels. Design, available and planned due to the interruptions in production due to the Corona pandemic during the years 2019 and 2020, as production is almost non-existent in most months, and during the year 2021 due to the stability of health conditions somewhat increased the amount of actual production to reach (52730) units during this year.

Table (2)
Design and available capacities and planned and actual production of the men's suit product for the years (2019-2021)

Percentage of actual production to: (%)			Actual production (unit)	Planned output (unit)	Available Power (Unit)	Design Power (Unit)	year
Planned production	Available Power	Design Power					
2019	120000	90000	80000	1217	%1.01	%1.35	%1.52

2020	120000	90000	80000	875	%0.73	%0.97	%1.09
2021	120000	90000	80000	14280	%11.9	%15.87	%17.85

Source: Preparation of the researcher based on the annual reports of the Planning and Follow-up Section.

The above table shows that the actual production of the men's suit product for the years 2019, 2020 and 2020 amounted to (1217), (875) and (14280) suits respectively, and it is also shown that the ratio of actual production to the design capacity of these years (1.01%), (0.73%), and (11.9%) respectively, either the ratio of actual production to the available energy for these years was (1.35%), (0.97%), and (15.87%) respectively, while the ratio of actual production to planned production for these years was (1.52%), (1.09%), (17.85%) respectively. The process of producing the men's suit in the laboratory of the research sample goes through several stages that are carried out by the productive divisions, provided that this process is interspersed with the examination of the work done by the divisions of the Quality Control Department, and these stages can be illustrated through the following:

1. Stage of preparation of the side of the breasts for the jacket: At this stage, the side of the breasts for the jacket is prepared after the fabric and threads for this process are received and start pointing the chest of the jacket according to the mold prepared in the design division with the preparation of the chest cannula in preparation for the start of the preparation of the chest pockets and sides.
2. The stage of preparation of the back, the collar of the jacket, the lining and the sleeve: at this stage the back, the collar of the jacket, the lining and the sleeve are prepared with the completion of the marking and ironing processes and the sewing of the two pieces of the back and linking the parts of the lining with each other in preparation for sewing.
3. Jacket assembly stage: At this stage, the process of assembling the jacket is carried out by connecting both sides of the jacket and chest with the back, lining, shoulder, collar, and the process of installing the chest pocket and the side of the chest, as well as connecting the cannula to the chest as well as sewing the ruler.
4. Stage of suturing the sleeve and lining with the body of the jacket: At this stage the sleeve and lining are sewn with the body of the jacket as well as the fastening of the fillers and shoulders.
5. The stage of sewing the ends of the jacket and opening the house of the buttons of the jacket: At this stage the ends of the jacket are sewn and the house of the buttons of the jacket (dumkem) is opened, and after the completion of the sewing process the jacket is cleaned of any threads or waste from excess fabric and then the ironing process is done and the quality control department conducts the final inspections.
6. Stage of preparation of the breasts of the trousers: At this stage, the breasts of the trousers are prepared after receiving the fabric and other sewing supplies necessary to complete this stage to mark the fabric according to the mold specified for the chest of the pants and ironing.
7. Trousers Back Preparation Stage: At this stage, the back of the trousers is prepared through the process of pointing the fabric allocated to the back of the trousers according to the specified mold, conducting the ironing process and sewing it with the back pocket and preparing the trouser and the ceramic compress.
8. The stage of sewing and connecting the internal and external sides of the trousers: At this stage, the process of sewing and connecting the internal and external sides of the trousers is completed using a raw piece that connects these sides with the saddle, chest and back of the trousers, as well as sewing the zipper and ironing processes.
9. The stage of assembling and sewing the parts of the trousers: At this stage, the process of assembling and sewing the parts of the trousers is carried out such as linking the kamer with the hull of the pants and the coy, and here the internal fillings of the kemer, adhesive and various threads are used as well as connecting the seat and the koeh and fixing the relationship (ginkal) and the ring associated with it on both ends of the trousers.
10. The final sewing stage of the trousers: In this stage, the final sewing of the trousers is carried out, where the process of strengthening the pockets with the trap, installing the buttons, opening the houses of the buttons (dummel) as well as cleaning the trousers, and the quality control department conducts the final

inspection on it so that it can be stamped in the event that the results of the examination match the design of the model, and then the packaging process with the jacket is done.

Measuring flows financially (financial flows): During this step, the quantitative (physical) flows of inputs and outputs in each quantitative center are translated financially, as shown below:

- A. Inventory of Quantity Center Costs: According to the Material Flow Cost Accounting (MFAC) there are four types of costs, namely material costs, energy costs, system costs, and loss management costs, and these costs can be explained, as follows:

First: Material costs: The costs of materials can be explained according to the centers of quantities of the product of the men's suit through the following table:

Table (3)

Material costs by quantity centers for men's suit product at the ready-to-wear factory in Najaf Al-Ashraf during the year 2021

Quantity Centers	Materials	Quantities			Cost (dinar)	
		Unit of Measurement	unit	Total	unit	Total
Preparation of the side of the breasts for the jacket	Cloth	Meter	3.75	53550	24000	342720000
	Lining (150 wide)	Meter	1.8	25704	2700	38556000
	Adhesive Imam	Meter	0.7	9996	1890	26989200
	Al , Kanouja	Meter	0.5	7140	900	12852000
	Textile adhesive filling	Meter	0.2	2856	450	6426000
Preparation of the back, jacket collar, lining and sleeve	Pocket lining	Meter	1	14280	1250	17850000
	muslin	Meter	0.1	1428	150	2142000
	Prem	Meter	0.1	1428	250	3570000
	Non-stick filling	Meter	0.2	2856	280	3998400
	Collar cuff	Meter	0.2	2856	560	7996800
Jacket assembly	Buttons (Dumbled) size 22	number	6	85680	900	12852000
	Buttons (Dumbled) size 32	number	4	57120	1000	14280000
Sewing the sleeve and lining with the body of the jacket	Transparent threads	Meter	3	42840	240	3427200
	Regular threads	Meter	300	4284000	240	3427200
	Threads Over	Meter	350	4998000	175	2499000
	Silk threads	Meter	60	856800	42	599760
	The threads of the Dukma House	Meter	40	571200	30	428400

Sewing the ends of the jacket	Shoulders	Husband	1	14280	1100	15708000
	The tape is around the jacket	Meter	1.6	22848	720	10281600
Preparing my trouser chest	Ready Commode	Meter	1.25	17850	2000	28560000
	cloud	number	1	14280	300	4284000
	Relationship (Ginkali)	number	1	14280	250	3570000
Preparing the back of the pants	Thermal paper	Meter	0.5	7140	375	5355000
	Marking paper	number	0.5	7140	100	1428000
	Mito tape	number	25	357000	625	8925000
Sewing and tying the sides of the trousers	Size mark and factory	number	2	28560	400	5712000
	Semantic card (care)	number	1	14280	200	2856000
Assembling and sewing parts of trousers	Adhesive Kanouja	Meter	0.5	7140	650	9282000
	The tape is adjacent to the moon	Meter	1.5	21420	330	4712400
Final sewing of trousers	Sleeve hole bar	Meter	1.5	21420	255	3641400
	Relation	number	1	14280	160	2284800
	Nylon bag	number	1	14280	120	1713600
	Suit bag	number	1	14280	2000	28560000
	Total	-	-	-	44642	637487760

Source: Preparation of the researcher based on the data available in the laboratory.

It is noted from the table above that the material costs at the Jacket Preparation Center for the Chest Side (427543200) JD, the material costs at the Back Preparation Center, the Jacket Collar, the Lining and the Radin (35557200) JOD, either the material costs at the Jacket Collection Center (27132000) JD, while the material costs at the Rudan and Lining Sewing Center with the Jacket Hull (10381560) JD, the material costs at the Jacket End Sewing Center (25989600) JD, either the material costs at the Trouser Chest Preparation Center (36414000) JD, and the costs of the Back Preparation Center Trousers (15708000) dinars, and the costs of materials in the center of sewing and tying the sides of the trousers (8568000) dinars, and the costs of materials in the center of assembly and sewing parts of the trousers (13994400) dinars, either the costs of materials in the center of final sewing of trousers (36199800) dinars, and therefore the costs of materials in all the centers of quantities for the production of the men's suit in the laboratory of the research sample were (637487760) dinars for the total production and (44642) dinars per suit during the year 2021.

Second: Energy costs: Energy costs related to the amount and cost of energy consumption in relation to the product of the men's suit can be illustrated in the ready-made garment factory in Najaf Al-Ashraf during the year 2021 through the following table:

Table (4)

Energy costs of men's suit product at the ready-to-wear factory in Najaf during 2021

Quantity Centers	Consumption	Cost per kilowatt	Cost
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	(kW)	(dinar)	For total production	per unit
Preparation of the side of the breasts for the jacket	7120612	0.702	4998670	350
Preparation of the back, jacket collar, lining and sleeve	6213078	0.702	4361581	305
Jacket assembly	1887311	0.702	1324892	93
Sewing the sleeve and lining with the body of the jacket	2110216	0.702	1481372	104
Sewing the ends of the jacket	440561	0.702	309274	22
Preparing my trouser chest	2146031	0.702	1506514	105
Preparing the back of the pants	3113547	0.702	2185710	153
Sewing and tying the sides of the trousers	4119760	0.702	2892072	203
Assembling and sewing parts of trousers	2445321	0.702	1716615	120
Final sewing of trousers	1564402	0.702	1098210	77
Total	31160839	-	21874909	1532

Source: Preparation of the researcher based on the data available in the laboratory.

It is noted from the table above that the energy costs of the center for the preparation of the front of the two chests for the jacket (4998670) dinars, the energy costs of the center for the preparation of the back, the collar of the jacket, lining and the sleeve (4361581) dinars, the energy costs of the center of collecting the jacket (1324892) dinars, either the energy costs of the center for sewing the sleeve and lining with the hull of the jacket (1481372) dinars, the energy costs of the center for sewing the ends of the jacket (309274) dinars, the energy costs of the center for the preparation of the trouser chest (1506514) dinars, the energy costs of the center for the preparation of the back of the trousers (2185710), and the energy costs of the sewing center for the sewing center The 2892072 cost of energy for the center of assembly and sewing of the parts of the trousers (1716615) dinars, while the energy costs of the final sewing center for the trousers (1098210) dinars, so the total energy costs were (21874909) dinars for the total production (1532) dinars per unit.

Third: System Costs: The costs of the system for the men's suit product (for the total production) in the laboratory can be illustrated by the research sample during the year 2021 through the following table:

Table (5)

System costs for men's suit product (for total production) at the ready-to-wear factory in Najaf Al-Ashraf during the year 2021

Quantity Centers	Cost elements							Total System Costs
	Wages	Maintenance	Disappearing	Rental modes of transport	Employee Transfer	Quality Control	Industrial Security	
1	59004960	1485120	1013880	1328040	556920	528360	371280	64288560
2	71300040	1799280	1228080	1599360	671160	642600	442680	77683200
3	39341400	999600	671160	885360	371280	357000	242760	42868560
4	63931560	1613640	1099560	1442280	599760	571200	399840	69657840
5	9838920	242760	171360	228480	85680	85680	57120	10710000

6	50151360	1270920	856800	1128120	471240	528360	314160	54720960
7	34414800	871080	585480	771120	328440	599760	214200	37784880
8	29502480	742560	499800	656880	271320	271320	185640	32130000
9	88978680	2184840	1527960	1999200	828240	799680	556920	96875520
10	45224760	1142400	771120	1013880	428400	414120	285600	49280280
Total System Costs	491688960	12352200	8425200	11052720	4612440	4798080	3070200	535999800

Source: Preparation of the researcher based on the data available in the laboratory.

It can be seen from the table above, the system costs for the center of preparation of the chest side for the jacket (64288560) dinars, the costs of the system for the center of preparation of the back, the collar of the jacket, lining and the radan (77683200) dinars, the costs of the system for the center of assembly of the jacket (42868560) dinars, while the costs of the system for the center of sewing the sleeve and lining with the hull of the jacket (69657840) dinars, either the costs of the system for the center of sewing the ends of the jacket (10710000) dinars, the costs of the system for the center of preparation of the chest of the trousers (54720960) dinars, and the costs of the system for the center for the preparation of the back of the pants (37784880) dinars, either The costs of the system for the center of sewing and tying the sides of the trousers (32130000) dinars, the costs of the system for the center of assembly and sewing of the parts of the trousers (96875520) dinars, and the costs of the system for the center of the final sewing of trousers (49280280) dinars, so the total costs of the system (535999800) dinars during the year 2021.

Section : fifth

Conclusions and recommendations

1 . Conclusions:

- 1.1. After the great problems that have befallen the environment, the accounting of the costs of the flow of materials appeared, and this prompted many economic units to turn to the application of cost accounting for the flow of materials, as most of the specialized researchers proved that the technique of accounting for the costs of the flow of materials is one of the best techniques that preserve the environment and society.
- 1.2. Cost leadership is the tool that helps the economic unit to achieve its competitive goal and it affects the customer's satisfaction and requirements directly by obtaining products at low cost and good quality as well as obtaining new products with minimal environmental impact.
- 1.3. The technology of accounting for the costs of material flow contributes to the provision of a product of good quality, reducing the percentage of defective and determining the areas in which to spend within the four quality costs, as well as helping the economic unit to keep pace with the productive developments through which it provides information through which it can support many ideas that support the processes of creativity.
- 1.4. Failure to apply modern technologies in the economic unit under consideration (ready-made clothing factory in Najaf Al-Ashraf).
- 1.5. The production plans in the economic unit in question are good and lack of interest in waste and environmental influences.
- 1.6. The level of quality of products is good and this makes it easier for customers to know how efficient and quality the products are in the factory and this increases confidence in the products and thus increases the demand for them.
- 1.7. Due to the obvious weakness in the disclosure of environmental and economic aspects leads to difficulty in making strategic and operational decisions on these aspects.

- 1.8. The provision of products free of environmental influences that provide safety and security during use enhances the demand of customers for these products and thus gives the economic unit a competitive advantage.

2 . Recommendations:

- 2.1. The success of economic units in achieving cost leadership through the implementation of competitive strategies that require the unit to provide information to help it implement these strategies.
- 2.2. The use of the technology of accounting for the cost of the flow of materials works to provide information on cost management as well as information on the areas of defects and waste of materials and energy and this helps the unit of cost management.
- 2.3. Economic units can benefit from the strategic uses of material flow cost accounting technology in the implementation of any of the competitive strategies they pursue against competing units to remain in the market and gain customer satisfaction as a result of cost leadership to ensure the resulting competitive advantage.
- 2.4. The information provided by the Material Flow Cost Accounting Technique should be used to limit the material losses incurred by the economic unit to reduce them.
- 2.5. The technique of accounting for the cost of material flow should be applied in the economic unit because it provides economic and environmental information that helps in supporting competitive advantage.
- 2.6. The application of the technology of accounting for the costs of material flow in the economic unit should be utilized in order to manage material and energy flows to avoid defective losses during production processes.
- 2.7. The need for the economic unit to be convinced of the preservation of the environment because it bears costs and because these costs affect the price as part of the production process, so the administrative decisions related to the management of environmental costs must be accurate and depend on accurate measurement and in line with environmental and economic goals.
- 2.8. Focusing on the basic success factors represented by the environment, creativity and quality that are directly reflected on customer satisfaction and this is achieved through the use of modern technologies such as the technology of accounting for the costs of material flow to provide information that improves environmental and economic performance at the same time.

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