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USING RCA AND THE BALANCED SCORECARD TO ASSESS THE FIRM PERFORMANCE

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ABSTRACT. For the objectives of this article, we wish to underline the significance of resource consumption accounting and the balanced scorecard in today's accounting processes and how they assist an economic unit to work better. Consequently, it indicates that the Balanced Scorecard method may be upgraded by accounting for resource consumption and explains how this enhances performance management efficiency and answers difficulties concerning complementing views. Researchers analyzed data from the Najaf men's clothing factory from 2018 and conducted in-depth interviews with department leaders and employees to investigate the economic unit's efficiency. The data was acquired through site visits and personal interviews. As a result, an increase in financial and non-financial indicators' efficiency may be accomplished by combining resource consumption accounting (RCA) with a balanced scorecard (BSC), according to the results (financial, customer, internal operations, and learning and growth perspectives) (financial, customer, internal processes, and learning and growth perspectives) (financial, customer, internal operations, and learning and growth perspectives). Thus, the economic unit of the sample will be granted a superior performance efficiency rating.

JEL Classification: D02,
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Introduction

The intense competition faced by economic units and the criticism that traditional accounting systems have been exposed to, which are no longer able to provide appropriate information for decision-making by management, has led to the need to use new techniques to manage costs. These technologies attempt to enhance output and lower costs while retaining the quality and ensuring customer happiness, which helps to evaluate the success of the economic unit. The monetary units in Iraq are exposed to various problems in light of the economic conditions. The most critical challenges are the high costs, which lead to higher selling prices and diminish their market share. On the other hand, the economic units aspire to succeed and continue their operations, especially in the highly competitive environment and technological advancement. Therefore, they need to analyze their performance to secure their continuation and profit. Among these strategies that contribute to attaining this are the Resource

Consumption Accounting (RCA) technology and the Balanced Scorecard (BSC) methodology, and based on the above, the following question will be asked: Will the application of the techniques of accounting for resource consumption and the balanced scorecard boost the efficiency and effectiveness of financial and non-financial indicators to evaluate the performance of the economic unit?

The value of the research rests in the utilization of modern accounting methodologies, including accounting for resource use and the balanced scorecard, and their implementation in economic units. These technologies benefit from providing relevant, efficient, and high-quality information in the field of cost and management accounting to help them achieve their goals and ensure their survival in light of the intensely competitive environment, and to ensure proper and correct evaluation of their performance. The current study is distinguished from previous studies as it dealt with measuring the efficiency evaluation of economic unit performance. It is the integration between resource consumption accounting (RCA) and the Balanced Scorecard (BSC) using the applied method through the application of resource consumption accounting in one of the governmental economic units (Almusawi, Almagtome, & Shaker, 2019). (Almusawi, Almagtome, & Shaker, 2019). The men's clothing laboratory in Al-Najaf represents the research period in which the efficiency of the economic unit's performance will be measured and evaluated before and after applying the Resource Consumption Accounting (RCA) technique through the Balanced Scorecard (BSC) technology and comparing them. While most of the previous research, such as (Yilmaz & Ceran, 2017), (Al-Rawi & Abd al-Hafiz, 2018), (Kbelah, Amusawi, & Almagtome, 2019), (Alkhafajia, Almusawib, & Isam, 2020) relied on theoretical analysis and the use of a questionnaire, which is not objective in the business context.

1. Literature review

1.1. Resource Consumption Accounting

Resource Consumption Accounting (RCA) started as a management accounting technique in 2000 and was later refined in December 2001 by the International Association for Advanced Manufacturing (CAM-I) (Hussain, Gunasekaran, & Laitinen, 1998). The International Federation of Accountants (IFAC) includes Resource Consumption Accounting (RCA) in its 2009 study (Evaluating the Costing Journey: A Costing Levels Continuum Maturity Model) on Good Cost Management Practices (Al-Rawi & Abd al-Hafiz, 2018). RCA is a cost management system developed in Germany that combines the German cost management method (GPK) with the activity-based cost method (ABC). It combines the advantages of both to create a comprehensive and integrated cost control tool (Kbelah & Almagtome, 2019). (RCA) concentrate on resource flow. Then expenses may be tracked. Resources are how costs are realized, given the importance of the expenses in management choices. It is critical to successfully understand the nature of resources to simulate them (Al-Qady & El-Helbawy, 2016). (RCA) Deliver necessary data by identifying idle capacity and appearing to management, avoiding the expense of this capacity being allocated to cost objectives (Al-Hebry & Al-Matari, 2017). Resource consumption accounting has been characterized as a costing approach that gives decision-makers knowledge on enhancing their operations via learning, proven application, and sound decision support principles (IFAC, 2009).

Additionally, it describes Benha as "a complete and integrated cost management system that represents a novel approach to accounting and offers managers with superior economic unit information" (Carraro, 2018). Additionally, it was characterized as a strategy that combines the

benefits of German costing (GPK) and activity-based costing (ABC) by giving trustworthy and suitable information to the economic unit. This technology is primarily concerned with distinguishing between the ownership and consumption of resources and detecting idle capacity to cut costs, boost profits, and strengthen the competitive position.

The three pillars of Resource Consumption Accounting (RCA) are the comprehensiveness of resources, the nature of costs, and applying a quantitative-based cost model (Okutmus, 2015). The comprehensiveness of resources: is contingent upon a holistic perspective of resources as represented by the resources assigned to activities and operations inside an economic unit. So it is because capacity has been examined and evaluated concerning resources and that these resource pools serve as a way of managing capacity. As a result, (RCA) focuses on the general idea of resources and their pooling in resource pools to account for the costs associated with each resource type and understand their connection. The creation of resource pools is predicated on the premise that resources must contain all associated expenses. This strategy focuses not only on the interaction between resources and activities but also on the interdependence of resources due to the presence of specific resources to service other resources (Al-Rawi& Abd al-Hafiz, 2018).

Costs Nature: The key benefit of RCA technology is that it records primary and secondary costs independently in each complex and determines rates for fixed and proportional costs separately (Balakrishnan, Labro, & Sivaramakrishnan, 2012).

Quantitative use of the cost model: The technique of resource consumption accounting is based on quantifying resource outputs in quantitative units. These quantities are expressed in terms of direct work hours, kilowatts of electricity, and hours of machine rotation, among others. Then, the planned and actual costs are allocated to various cost units based on the quantities consumed as outputs of these resources, considering the causal link between the primary resources used and the unit cost, and finally, the monetary value (Al-Rawi& Abd al-Hafiz, 2018).

RCA Implementing Steps

numerous actions must be taken to implement resource consumption accounting, including the following: -

- The first phase gathers resources inside the economic unit through resource cost pools. This stage entails confirming resource relationships and establishing resource pools based on resource similarities and associations, such as the human resource pool, the equipment resource pool, the electricity resource pool, and the labor resource pool (Kbelah et al., 2019).
- The expenses associated with each resource pool are categorized as primary and secondary costs, and the overall costs are then determined (Kurtlu, 2016).
- Each resource pool's expenses are separated into fixed and proportional costs. This split is critical because fixed costs are allocated according to theoretical capacity, whereas proportional costs are distributed according to the resource pool's production amount. For instance, direct labor is a proportionate cost, whereas training hours are a fixed cost component (Köse&Adeniz, 2017).
- Through resource factors, the costs gathered in the resource pools are allocated and assigned as fixed and proportional to the activities, hence determining the costs of the activities (Kurtlu, 2016).
- Identify resources used or idle energy to discover who is accountable for them and take remedial action (Ahmed & Moosa, 2011).
- Cost allocation of activities and assessment of the cost of each product (Kbelah et al., 2019).

1.2. Balanced Scorecard

The Balanced Scorecard converts the economic unit is purpose and strategy into a complete collection of performance measures, establishing a framework for the strategic assessment system via a balanced set of financial and non-financial performance metrics (Gomes & Romo, 2019). Strategies are defined as customized programs for achieving economic unification (Alao, 2013). The balanced scorecard's primary thesis is that financial metrics alone are insufficient to assess the performance of monetary units; as a consequence, three views on consumers, internal processes, learning, and growth have been included to complement the traditional financial indicators (Mamabolo & Myres, 2020). BSC enables economic units to monitor and enhance all critical parts of their economic unity strategy and continuously develop economic unity and collaboration (Awadallah & Allam, 2015). It alleviates information overload by restricting the number of metrics utilized while simultaneously compelling managers to focus on a subset of more critical KPIs. BSC inherits several early fundamental management concepts, including Taylor's (1911) concept of productivity-based performance measurement to improve learning and performance, Redway's (1956) balanced approach to performance measurement, and Drucker's 1954 (MBO) concept of management by objective (Tan & Sitikarn, 2019). The Balanced Scorecard enables senior management to implement and monitor the organization's plan via information and communication technology (ICT) (Antonsen, 2014). Economic units have a lot of potentials to contribute positively to performance improvement and performance measurement through the balanced scorecard. Kaplan and Norton emphasize that (BSC) is a strategic performance management system, not simply a system for measuring the performance of an economic unit (Andry & Sebastian, 2018), noting that the American Accounting Association recognized the concept (BSC) as the best theoretical contribution to science in 1997. (Tan, 2019). BSC is described as a collection of indicators that provide critical managers with a concise but complete business perspective. It contains financial measurements that demonstrate the impact of previous actions.

Additionally, it supplements financial measurements with operational measures about customer satisfaction and associated operations. Activities relating to the economic unit are cell, invention, and improvement (Kaplan & Norton, 2005). Additionally, a comprehensive set of performance indicators is generated from and supported by the Economic Unity policy (Garrison et al., 2018). Academics characterized it as a management accounting approach that turns an economic unit is vision and strategy into a complete and integrated set of performance indicators to improve performance and facilitate communication within the monetary department. Finally, it balances financial and non-financial metrics to accomplish the economic unit's vision and strategic objectives.

Perspectives on the Balanced Scorecard

Financial Point of View: The financial perspective's principal objective is to increase shareholder value (Kefe, 2019). The financial viewpoint of the balanced strategic scorecard enables management to identify the measures used to assess the economic unit's long-term performance and the variables that contribute to this success and future outcomes (Giemza).

From the customer's perspective: There is growing recognition of the critical nature of customer attention. The customer viewpoint encapsulates an economic unit in connection with its customers. Therefore, it is essential to assist the economic unit in improving its financial outcomes. Additionally, it describes how economic units differentiate themselves from rivals to retain clients and strengthen relationships with existing customers (Abdalkrim, 2014).

Internal operations perspective: This perspective gives an overview of the economic unit is internal operations to productively and efficiently satisfy customer expectations (Nurosidah et

al., 2015). In this context, the balanced scorecard enables the economic unit to design new methods and activities for achieving its customers' and financial goals and incorporate the renewal process into internal operations. The economic unit can identify new and developing client wants and create new goods and services to meet them (Ayvaz&Pehlivanli, 2011).

Perspective on learning and growth: Learning and growth are two critical characteristics that any economic unit must incorporate into its strategy. Several leading indicators and intangible assets may be utilized to illustrate these characteristics, including human capital, organizational capital, informational capital, culture, alignment, and collaboration (Al-Hosaini& Sofian, 2015). (Andry& Sebastian, 2018). This approach emphasizes the economic unit is intangible assets, particularly the internal talents and competencies of the personnel required to support internal value creation activities (Khaled& Bani-Ahmad, 2019).

2. Data and Method

The applied study approach was followed to use the resource consumption accounting technique and the Balanced Scorecard and the effect of their integration on evaluating the performance efficiency of the economic unit. The research sample is the men's clothing factory in Najaf was chosen as an applied study to reach this study's results. Data were acquired from the financial reports and cost reports for the year 2018 of the study sample. Field visits and personal interviews were also done with department managers and personnel.

3. Results

The overall results of this study can be summarized in three sections: the current cost system, the application of the resource consumption accounting technique, a comparison of evaluating the efficiency of the economic unit performance using the balanced scorecard before and after the use of the resource consumption accounting technique.

The current cost system in the men's clothing factory in Al-Najaf: The men's clothing factory in Al-Najaf is one of the factories affiliated to the textile factory in Hilla, which in turn is one of the formations of the Ministry of Industry and Minerals, and the factory was established in 1985, and the factory produces 44 products with different models. The cost of the product is determined by distributing the total costs to the products according to one direction, which is the time of sewing the product. It does not consider the number of raw materials spent for production or the quality of fabrics and other materials used. Application of resource consumption accounting technique consists of the following steps:

3.1 Defining Resource Pools and Directives

In this step, the resources of the economic unit were divided into four resource pools. First, it is a complex labor resource and includes salaries, cash wages, transportation of workers, travel, delegation, training, qualification, expenses, and other compensations. Second, the material supplier comprises raw materials, oil and gas, oils and lubricants, packaging materials, supplies, tasks, stationery, and other materials. Third, the maintenance resource complex includes maintenance of buildings, constructions, roads, machinery, equipment, transport and transmission means, tools and molds, and office furniture and equipment. Finally, the extinction resource includes the depreciation of buildings, constructions, and roads, the Depreciation of machinery and equipment, the depreciation of transportation and transportation means, the outage of numbers and molds, and the depreciation of furniture and office equipment.

3.2 Dividing The Resource Pools Into Fixed and Proportional Costs

The resource pool costs are divided into fixed and proportionate costs. The amount of input consumed is classified as fixed costs if it does not change with the output volume. They are classified as proportional costs if they change. Fixed cost rate is calculated based on theoretical capacity and proportional cost rate based on process capacity.

3.3 Allocation of Costs Collected In Resource Pools To Activity Centers

In this step, the prices of resource pools are allocated to the activity centers. According to the principle of causation in accounting for resource consumption, activities consume resources, and products consume activities. The activities that consume resources in the economic unit were determined as follows:

- 1-Design activity
- 2-Technology activity
- 3- Programming activity
- 4- Separation and preparations activity
- 5- Sewing activity
- 6- Ironing activity
- 7- Packaging activity
- 8- Quality control activity
- 9- Maintenance activity
- 10- Marketing activity
- 11- Administrative activity

To clarify the mechanism for allocating resource pools to activities, for example, the resource for cash salaries and wages. This resource is given to the activities through a directive for the supplier represented by the direct working hours for each activity that consumes this resource multiplied by the fixed and proportional costs rate.

$((\text{Activity share from the resource} * \text{fixed cost rate}) + (\text{Activity share from the resource} * \text{Proportional cost rate}))$.

After identifying the activities and their directives, we extract the activity load rates. This is done through the following equation

$(\text{Activity cost Rate} = \text{Total Cost of Activity} / \text{Activity rate})$.

The following table shows the calculation of activity load rates:

Table 1. Total activity cost and average activity costs

Activity	Total costs of activity	Activity driver	Rate of activity
Design activity	25033745.46	58	431616.3010
Technology activity	45217574.20	7	6459653.4571
Programming activity	33983365.53	153	222113.5001
Arthrosis activity and preparations	843735175.87	46152506	18.2814
Sewing activity	7487595940.46	154381453	48.5006
Cauterization activity	552049006.11	2847285	193.8861
Packaging activity	331400905.59	16389337	20.2205
Quality control activity	170290213.93	34030941	5.0039
Maintenance activity	407383925.26	203381244	2.0030
Marketing activity	92791742.36	31416000	2.9536
Administrative activity	574412514.96	31416000	18.2840

3.4 Determining idle capacity

After allocating the resource costs to the activities, we can then extract the idle capacity by comparing the realized prices of the economic unit with the costs allocated according to the resource consumption accounting technique.

Table 2. Idle Capacity Costs

Resource	Incurred costs	Allocated costs under RCA	Idle capacity costs
Labour resource			
Salaries and wages	9,080,652,207	4,667,336,915.71	4,413,315,291.29
Transportation of the workers	185,849,403	75,677,876.90	110,171,526.10
Travel and dispatch	45,053,000	34,540,633.33	10,512,366.67
Training and rehabilitation	1,250,000	585,616.43	664,383.57
Other expenses and wages	474,897,094	402,271,652.10	72,625,441.90
Materials resource			
Raw materials and raw materials	3,556,701,905	3,556,701,905	0
Petroleum materials	139,891,580	138,930,830.01	960,749.99
Gas	49,000	30,153.84	18,846.16
Oils and lubricants *	39,339,708	37,271,264.16	2,068,443.84
Packing materials	202,002,849	202,002,849	0
Supplies and tasks	17,800,751	11,236,724.06	6,564,026.94
Stationery	8,988,750	5,659,583.33	3,329,166.67
Other materials	105,437,511	69,464,713.14	35,972,797.86
Maintenance resource			
Maintenance of buildings, structures and roads	2,086,000	1,303,750.00	782,250.00
Maintenance of machinery and equipment	11,201,000	10,925,677.94	275,322.06
Maintenance of transmission and transmission media	4,529,000	2,829,073.97	1,699,926.03
Maintenance number and molds	295,000	94,263.81	200,736.19
Maintenance of furniture and office equipment	9,750,000	4,567,808.24	5,182,191.76
Depreciation resource			
The depreciation of buildings, constructions and roads	661,618,156	413,511,347.51	248,106,808.49
The depreciation of machinery and equipment	1,372,483,854	867,977,720.09	504,506,133.91
The depreciation of transmission and transmission media	24,656,676	15,401,978.44	9,254,697.56
The depreciation of the equipment and templates	3,570,047	1,135,151.94	2,434,895.06
The depreciation of office furniture and equipment	94,850,097	44,436,620.78	50,413,476.22
Total	16,042,953,588	10,563,894,109.73	5,479,059,478.27

The above table shows the costs incurred by the products before using the resource consumption accounting technology by (16,042,953,588) dinars. However, when using the technology, it became after that (10,563,894,109.73) dinars due to extracting idle capacity costs amounting to (5,479,059,478.27) dinars, at a rate of (34.15%). After determining the costs of activities, their drivers, and activity load rates, we allocate activity costs for products by

multiplying each product's activity load rate in the vector. Then we extract the cost of each product by dividing the quantity of each product.

Table 3. Costs assigned to products and product cost per unit

#	products	Costs assigned to products	Number of units produced	The cost per unit
1	Men's suit (various models)	79689605.79	3069	25965.98
2	Blessings	372794352.81	28196	13221.53
3	Défense suit	1236222824.59	96141	12858.44
4	Men's special suit	9674437.87	261	37066.81
5	Semi-factory military suit	49497433.96	62150	796.42
6	Special military suit	593447.07	28	21194.54
7	Two-piece business suit	3259339.14	205	15899.22
8	Electrical work suit	3739782.35	274	13648.84
9	Business suit (Model Number 4132)	12221747.56	1007	12136.79
10	Work suit north oil and gas pipelines	4723246.47	316	14946.98
11	Drilling company business suit	9091898.36	816	11142.03
12	Traffic suit	587207.28	5	117441.46
13	Bugfix operations	811125168.29	488772	1659.52
14	Men's single jacket	5092334.73	161	31629.41
15	Single Jacket (Various M.)	3407808.73	146	23341.16
16	Collector's Rob	442127.64	40	11053.19
17	Rob judges	12130822.09	2044	5934.84
18	Threshold Pants	735281.70	38	19349.52
19	Business suit pants	247570.24	5	49514.05
20	Girl's Pants	1609815.25	579	2780.34
21	Mens pants	1381830.81	52	26573.67
22	Men's Pants (Model Number 3046)	858244.47	54	15893.42
23	Men's Pants (Various Models)	6657001.50	695	9578.42
24	Special single pants	624593.58	19	32873.35
25	Boy's pants	2708234.35	807	3355.93
26	Boys' Pants (Model Number 2058)	237336.70	2	118668.35
27	Health sheets	531834710.59	1605930	331.17
28	Latex fitted sheet	13724797.54	4150	3307.18
29	Girl's Bra	1693313.90	500	3386.63

30	ThibaHusseiniya work	285443.55	14	20388.83
31	Waistcoat of the Ministry of Defense	415671.79	45	9237.15
32	The sign of Ibn al-Haytham	5360964.53	1000	5360.96
33	Bow	537086.26	1100	488.26
34	Girl's shirt	2603436.28	592	4397.70
35	Half dress shirt	755674.12	107	7062.37
36	Boys' shirt	2863679.13	738	3880.32
37	Kaon health	6728842344.58	10892008	617.78
38	A rose	254493.91	113	2252.16
39	Small pillow	18192363.51	45528	399.59
40	Small pillow (model number 49017)	88357003.52	397250	222.42
41	Large pillow (model number 49016)	534154415.22	2753415	194.00
42	Vest for daughters	481424.73	79	6093.98
43	Vest for guys	1087512.00	78	13942.46
44	Vest for children	3096281.24	808	3832.03

3.5 Implementation of Balanced Scorecard

This paragraph will apply the Balanced Scorecard technique using some indicators for its four perspectives. By relying on the cost data of the economic unit before using the method of accounting for resource consumption and afterward, the integration will be created between the accounting of resource consumption and the balanced scorecard to evaluate the efficiency of the economic unit's performance.

- **Financial perspective:**

The purpose of the financial perspective is to increase the value of shareholders. This perspective in the balanced strategic scorecard enables management to define the metrics used to evaluate the long-term success of the economic unit by increasing revenues and reducing costs. Follows:

- **The ratio of the manufacturing cost to the total costs:**

this measure shows the relationship between the manufacturing cost and the total economic unit costs. If the percentage of the manufacturing cost to the complete economic unit costs decreases, this indicates a decrease in the manufacturing costs. Hence a reduction in the total economic unit costs. Conversely, the increase in the manufacturing cost to the entire economic unit costs indicates an increase in manufacturing costs. Consequently, an increase in the total cost of the economic unit. This indicator can be measured through this equation as follows:

The ratio of the manufacturing cost to the total costs= (manufacturing costs/ total costs) × 100

- **The ratio of sales revenue to total economic unit costs:**

This measure shows the relationship between sales revenue and total economic unit costs if the percentage of sales revenue to entire economic unit costs increases, evidence of an increase in sales revenue and a decrease in total expenses. As the percentage of sales revenue decreased from the total costs of the economic unit, evidence of an increase in the total costs of the economic unit. This indicator can be measured through this equation as follows:

$$\text{The ratio of sales revenue to total costs} = (\text{total revenues} / \text{total costs}) \times 100$$

The following table shows the calculation of financial perspective indicators as follows:

Table 4. Indicators of Financial Perspective

Target	scale	Calculation method	Indicators under economic unit data	Indicators under integration between BSC and RCA
Cost reduction	(manufacturing costs/ total costs) × 100	15832838989 × 100 16042953588	%98.69	-
	(manufacturing costs/ total costs RCA) × 100	9896689852.41 × * 100 16042953588	-	%61.68
sales	(total revenues/total costs) × 100	8052471000 × 100 16042953588	%50.19	-
	(total revenues/total costs RCA) × 100	8052471000 × __100 10563894109.73	-	%76.22

* Manufacturing cost according to resource consumption accounting technique = total cost - marketing costs - administrative costs

The above table shows that the manufacturing cost percentage based on the economic unit data has achieved (98.69%). Whereas, according to the integration between resource consumption accounting and the balanced scorecard, it has completed (50.19%), which indicates a significant reduction in manufacturing costs when using resource consumption accounting technology and the balanced scorecard. As for the indicator on sales revenue on total costs was achieved according to economic unit data (50.19%). While according to the integration between accounting for resource consumption and the balanced scorecard, (76.22%) was achieved. This indicates a decrease in total costs and an increase in sales when using the Resource Consumption Accounting and Balanced Scorecard technique. It is noticed from the preceding that the use of resource consumption accounting technology and the Balanced Scorecard will significantly contribute to reducing the economic unit costs and thus increasing the efficiency of the economic unit performance.

• Customer Perspective

The customer perspective measures the relationship between an economic unit and customers through market share, retention, new customer acquisition, satisfaction, and profitability. The criteria that can be used in the economic unit of the research sample have been identified as follows:

• The Ratio of Advertising Cost To The Total Cost of The Economic Unit

This measure shows the relationship between advertising costs and the total cost of an economic unit. Suppose the percentage of advertisement cost increases over the total cost of the

economic unit, evidence of the economic unit's interest in advertising its products to increase its market share and acquire new customers. Conversely, if this percentage decreases, the economic unit is less interested in increasing its market share and acquiring new customers. It can be calculated using this equation as follows:

The ratio of the cost of advertisements to the total costs = (advertisements costs/total costs) × 100

The Ratio of The Cost of Selling Services To The Total Cost

The sales services of the economic unit are the research sample, free delivery of the products sold. If the percentage of the cost of sales services increases over the total cost of the economic unit, evidence of the economic unit's interest in gaining customer satisfaction and keeping them in good condition. If the percentage decreases, this indicates a lack of interest in the economic unit for customer satisfaction and maintenance.

The ratio of the cost of selling services to the total costs = (selling costs/total costs) × 100

The following table shows the calculation of the customer perspective indicators, as follows:

Table 5. Indicators of customer Perspective

Target	scale	Calculation method	Indicators under economic unit data	Indicators under integration between BSC and RCA
Market share	(advertisements costs/ total costs) × 100	1829000 × 100 16042953588	%0.011	-
	(advertisements costs/ total costs RCA) × 100	1829000 × __100 10563894109.73	-	%0.017
Customer satisfaction	(selling costs/total costs) × 100	* 1166000 × 100 16042953588	%0.007	-
	(selling costs/total costs RCA) × 100	1166000 × __100 10563894109.73	-	%0.11

The proportion of advertising costs based on economic unit statistics may be seen in the above table (0.011 percent). In contrast, resource consumption accounting with the balanced scorecard yielded a high proportion of success (0.017 percent). This shows the desire of the economic unit to increase its market share and acquire new clients. According to economic unit data, the index of selling service charges on total expenses was calculated (0.007 percent). Since resource consumption accounting was integrated into a balanced scorecard, 0.11 percent was accomplished. Using a balanced scorecard and resource consumption accounting technologies together shows the economic unit is the commitment to customer satisfaction.

Internal Operations Perspective

When it comes to satisfying consumers' needs, this approach looks at what an economic unit can and can not achieve internally. Improving the internal procedures of the economic unit to improve product quality and reduce costs is an example of this. These are the criteria that can be applied to the economic unit of the study sample:

The Ratio of Quality Control Costs To The Total Economic Unit Costs

The economic unit examines raw materials before manufacturing to produce high-quality goods. It is also evaluated throughout production (semi-finished) to ensure that the product meets the standards and is free of flaws and after the manufacturing process (a finished product). Having a more significant percentage of quality control expenditures in the overall economic unit costs indicates the company's desire to provide high-quality products for customers. The following equation can be used to get its value:

The ratio of cost of quality control to total costs= (costs of quality control/total costs) ×100

The ratio of costs of worker services to the total costs:

The quantities spent on employees in an economic unit indicate the value of the workers' services, to name a few: transportation, food, clothes, and medical insurance. An increase in productivity and a decrease in expenses can be achieved when an economic unit delivers services to its workers. There will be an increase in output, lower costs, and improved performance due to a more significant percentage of assistance given to workers being included in the overall economic unit costs of the economic unit. The following equation can be used to get its value:

the ratio of costs of worker services= (costs of worker services /total costs) ×100

Manufacturing Cost To The Number of Units Produced

This graph shows the link between manufacturing costs and the number of units produced. A rise in unit cost may be found by looking at the expenses. Evidence that the cost of the productive unit has decreased, which is what the economic unit desires if it drops. The formula for calculating it is as follows:

Manufacturing cost to the units produced= manufacturing costs /units produced

The following table shows the calculation of the internal operation's perspective indicators, as follows:

Table 6. Indicators of internal operations Perspective

Target	scale	Calculation method	Indicators under economic unit data	Indicators under integration between BSC and RCA
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quality	(costs of quality control/total costs) ×100	×196377626100 16042953588	%1.22	-
	(costs of quality control/total costs RCA) ×100	196377626×_100 10563894109.73	-	%1.85
Supporting the workers to improve work performance and increase productivity	(costs of worker services /total costs) ×100	185849403× 100 16042953588	%1.15	-
	(costs of worker services /total costs RCA) ×100	185849403×_100 10563894109.73	-	%1.75
Reducing manufacturing costs	manufacturing costs /units produced	15832838989× 100 16389337	÷ 96604.51	-
	manufacturing costs RCA /units produced	9896689852.41×100 16389337	-	÷ 60384.93

It is noticed from the above table that the ratio of the cost of quality control to the overall cost of the economic unit, based on the data of the economic unit, has been attained (1.22 percent). (1.22 percent). In contrast, a high percentage was obtained according to the integration between resource use accounting and the balanced scorecard (1.85 percent). (1.85 percent). This reflects the interest of the economic unit in supplying clients with high-quality items. As for the indication on the cost of worker services on the overall cost of the economic unit, it was reached according to the economic unit data (1.15 percent). (1.15 percent). While according to the integration between the accounting of resource use and the balanced scorecard, a high percentage (1.75 percent) was obtained. This demonstrates the interest of the economic unit in the worker to enhance performance and raise worker output. As for the indication on the manufacturing cost to the number of units produced, according to the economic unit statistics, it has attained (96604.51) dinars. While according to the integration between resource consumption accounting and the balanced scorecard, it has reached (60384.93) dinars, which implies a decrease in the unit cost when integrating between resource consumption accounting and the balanced scorecard.

Learning And Growth Perspective

This approach emphasizes the internal talents and capacities of the employees, and on the economic unit strengthening the worker's skills through training courses and supporting the worker and motivating them through rewards. It also focuses on giving more accurate and timely information to the worker. The criteria that can be employed in the economic unit of the study sample have been identified as follows:

A- Ratio of Worker Training Costs To Total Cost

This ratio illustrates the link between worker training expenses and overall economic unit cost. The more significant the proportion of worker training expenditures to the overall cost of the economic unit, proof of the economic unit's interest in training the worker and enhancing their abilities. If the ratio of worker training expenditures to the overall cost of the economic unit drops, this shows that the economic unit is not interested in growing worker skills. It may be computed according to the following equation:

$$\text{The ratio of worker training costs to total cost} = (\text{training costs} / \text{total costs}) \times 100$$

B- Ratio of Bonuses To Total Costs

This ratio reflects the link between the incentive bonuses and the overall economic unit costs. An economic unit's desire to motivate its employees through financial incentives is demonstrated by a more significant percentage of incentive awards in total expenses. Suppose the ratio of the incentive bonuses to the overall economic unit costs declines, proof of the economic unit's lack of interest in motivating the worker through incentives. It may be computed according to the following equation:

$$\text{Ratio of bonuses to total costs} = (\text{bonus} / \text{total costs}) \times 100$$

The following table shows the calculation of the indicators of the learning and growth perspective, as follows:

Table 7. indicators of Learning and growth perspective

Target	scale	Calculation method	Indicators under economic unit data	Indicators under integration between BSC and RCA
Training the workers	(training costs/total costs) ×100	×1250000 100 16042953588	%0.007	-
	(training costs/total costs RCA) ×100	1250000×_100 10563894109.73	-	%0.011
bonus	(bonus / total costs) ×100	55531500× 100 16042953588	%0.34	-
	(bonus / total costs RCA) ×100	55531500×_100 10563894109.73	-	%0.52

Table 8 demonstrates that the ratio of worker training expenses to total economic unit costs has attained (0.007 percent) based on economic unit statistics. (0.007 percent). Whereas, according to the integration between the accounting of resource consumption and the balanced scorecard, it obtained a high rate (0.011 percent), reflecting the economic unit's desire to grow worker skills through training. As for the index of incentive payouts to the total economic unit, costs were reached according to economic unit statistics (0.34 percent). (0.34 percent). Whereas, according to the integration between the accounting of resource consumption and the balanced scorecard, a high percentage (0.52 percent) was obtained, reflecting the economic unit's desire to motivate the worker through rewards. The following figure illustrates the balanced scorecard under the (RCA) application of the research sample and is as follows:

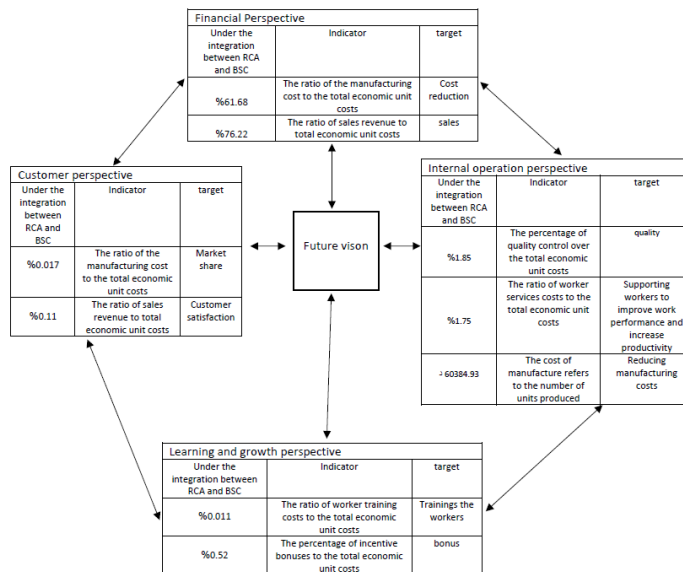


Figure 1. Implementation of Balanced Scorecard under RCA

The above demonstrates that the application of resource consumption accounting technology increases the efficiency and effectiveness of the financial and non-financial indicators of the Balanced Scorecard viewpoint. As a result, it results in a rise in the efficiency and effectiveness of the economic unit is performance.

Conclusions

The criticism experienced by traditional systems can no longer give relevant information for decision-making by management. This focuses on financial data and its lack of emphasis on non-financial indicators. This has led to the necessity to utilize innovative approaches to manage expenses that give management adequate decision-making, planning, and control information. The integration between resource consumption accounting and the balanced scorecard leads to profit from the outputs of resource consumption accounting in enhancing the indicators of the performance evaluation process within the economic unit. While applying the resource consumption accounting technique, the idle capacity rate amounted to (34.15 percent) equivalent to (5,479,059,478.27) dinars. This suggests that the resources of the economic unit are not employed optimally. Adopting the resource consumption accounting approach cuts industrial expenses by (5936149136.59) dinars. According to the company's data, the industrial expenses amounted to (15832838989) dinars, and when using the technique of accounting for resource consumption, it became (9896689852.41) dinars. According to the company's data, a considerable drop in the overall expenses was noticed after using the resource consumption accounting approach, according to the company's data by (16042953588) dinars. After applying the (RCA) technology, it became by (10563894109.73) dinars. The integration between resource consumption accounting and the balanced scorecard leads to an increase in the efficiency of the financial and non-financial indicators of the four perspectives of the balanced scorecard (the financial perspective, the customer perspective, the internal operations perspective, and the learning and growth perspective) and thus increasing the performance evaluation of the economic unit's research sample.

Accordingly, the economic unit should be urged to know, learn, and adopt contemporary cost-effective and administrative techniques in response to the changes in the economic unit's current business environment. These technologies contribute significantly to providing management with financial and non-financial information for decision-making and planning

and contribute to the optimal use of the economic unit's resources and reducing costs. The economic unit should embrace integration between resource consumption accounting (RCA) and the Balanced Scorecard (BSC) because of its central significance in boosting the efficiency of its performance. The economic unit must establish a database to provide the financial and non-financial information necessary to provide contemporary cost-effective technologies with the required information, as accounting for resource consumption and a balanced scorecard requires comprehensive information about the economic unit. It is vital to teach personnel on current management accounting and cost accounting techniques to have the appropriate expertise to use these approaches efficiently and successfully.

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