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ANALYZING CUSTOMER PROFITABILITY USING RESOURCE CONSUMPTION ACCOUNTING FOR IMPROVING FIRM PERFORMANCE

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ABSTRACT. The primary objective of this research is to implement a CPA in the Bags / Hilla plant, as this topic addressed the topic of customer profitability analysis, which is a new management accounting approach that relies on resource consumption accounting (RCA) to increase effectiveness through reliance on resource consumption and activity methods, as it will enable managers to make decisions and develop the right strategies by reducing product costs and knowing the profit margins. The purpose of this study is to demonstrate the influence of resource consumption accounting on customer profitability analysis in the bags / Hilla factory. In the Al-Hilla / Al-Hilla / Al-Hilla plant, a case-study technique was applied. It is via this process that an evaluation of the factory's actual expenses and the application of customer profitability analysis based on resource consumption accounting are made using the factory's actual data for the year 2018. The study concluded that success in analyzing customer costs and profitability is contingent upon selecting the appropriate method for analyzing customer costs and that accounting for resource consumption is one of the most effective and accurate methods for analyzing customer costs and profitability. Accounting for resource consumption also sheds light on the economic unit is resources and the entwined relationships between them, as well as on their optimal exploitation and the identification of idle (unutilized) energy and its exclusion from products or services in order to reduce costs, and it is based on theoretical and practical energy, which provides more accurate, clear, and objective data on costs than the traditional method. Thus, the researcher's most significant suggestions affirm that enough attention is paid to the application of resource consumption accounting for his or her contribution to attaining this aim.

JEL Classification: D02, O17, P31

Keywords: customer profitability analysis, financial performance, resource consumption accounting

Introduction

Changes in the business environment have increased local and global competition as a result of current rapid technological development, diverse consumer tastes, and other factors. These factors have been a major motivator for economic units to provide products at competitive prices that meet the needs and desires of customers, earn their satisfaction and loyalty, and seek to minimize costs while maintaining the highest possible quality of products. Economic units have moved to preserve their market position by implementing current management accounting systems that will help them discover the variables that contribute to success and obtain competitive advantages as the business environment evolves and changes. Customer profitability analysis provides information that aids in strategic decision-making and planning for the future. This is accomplished through examining profitability and determining the amount to which customer expenses and revenues contribute to profits. Given the significance of the shortcomings of traditional cost entries in measuring costs and relying on potentially inaccurate or unfair foundations, as well as the fact that they include the costs of idle energy and charge them for the costs of products or services, this distorts the analysis process and diminishes the significance of its results.

Recent developments in the accounting literature in cost accounting have resulted in the creation of new cost management methodologies or approaches that try to resolve the challenges associated with cost allocation at traditional costentrances. One such entry is used to account for the use of resources that are comprehensive and capable of supplying information that standard cost entries have been unable to give. Thus, the current study will examine customer profitability using resource consumption accounting rather than typical cost inputs. Economic units face difficulties in analyzing the profitability of customers by identifying which customers require relationship development and which will strengthen the relationship, as well as determining the revenues and costs associated with them, particularly given that the majority of the methods currently used in the field of indirect costs do not achieve equitable cost allocation, resulting in the inability to make sound cost planning decisions. The issue with research is that traditional cost entries are incapable of providing useful information for determining the true costs of products or services provided by economic units, as well as the costs of their customers, which has a detrimental effect on the results of customer profitability analysis and decision-making. There is no question that knowledge regarding the expenses of products and services is critical for analyzing client profitability and for pricing and other decision-making. Adopting a customer profitability analysis that incorporates traditional expenses when determining the costs of products or services has a detrimental effect on its results and ignores the cost of idle energy when calculating those costs. Thus, the study's significance in suggesting a new entry, namely, the analysis of customer profitability using resource consumption accounting, and its critical role in giving information to managers in evaluating the costs associated with various administrative actions. The research aims to accomplish the following goals:

1. Establish a theoretical foundation for the interaction between customer profitability analysis and resource consumption accounting.
2. Demonstrate the resource consumption accounting application's influence on cost rationalization in a factory study sample.
3. Demonstrate the application's influence on customer profitability analysis using a factory study sample.

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1. Literature review

The theoretical framework for analyzing customer profitability

Customer profitability analysis

Customer profitability analysis plays an increasingly important role in a competitive business environment, with the economic unit moving from product-focused to customer-focused (Sridhar & Corbey, 2015: 265) and customers being treated as intangible assets (Hassan & Tabasum, 2018:6).

Through the practical reality of economic units, they do not distinguish between a profitable customer and an unprofitable customer, but they may know who is the most profitable customer, or their biggest customer, and the final outcome is that they do not know the profitability of all theircustomers.

In light of this, the issue of customer profitability analysis has attracted attention to both management accounting and marketing (Albalaki & Majeed, 2018:1547) and is widely recognized as important to understand customers who contribute to the profitability of the economic unit and the importance of attracting them and maintaining the most profitable customers of them, and in general, units that care about the reasons why some customers are the most profitable will become equipped with valuable and necessary information to improve their performance. (Stefan & Réka, 2010: 573) With the advent of cost input based on activities at the end of the 1980s, management accounting researchers were interested in understanding the factors affecting customer service costs and profitability and using this information to improve the management and control of customer services and appropriate processes (Niraj et. al,2001:3).

The concept of customer profitability analysis has been defined by many researchers and asfollows: -

Chartered Institute of Management Accountants defined customer profitability analysis (CPA)as an analysis of revenue **flows and service costs associated with specific customers or customer groups,**enabling revenue and costs to be allocated to individual customers or customer groups (Sridhar & Corbey, 2015: 265).

Mohamed CPA is a method of recording and analysing all revenue from customers, both at the individual customer level and at the group level, and the costs incurred to earn such revenues, with the aim of determining the contribution of each customer or group of customers to the profits of the economic **unit, which means that profits are calculated at** the customer level rather than products (Mohamed, 2016: 49).

Faria defined CPA as a contemporary management accounting technology that considers the customer as an **analysis unit, as well as providing information to manage** the customer mix from a profitability perspective (Faria et al, 2018: 65).

Accordingly, it can be said that the analysis of customer profitability is a method of recording and analysing all revenues generated from customers, both at the individual and group levels, and the costs incurred by the economic unit to earn such revenues, within a certain period of time, to seethe contribution of each customer or group of customers to the profit of the economicunit.

Moreover, it is important to distinguish between high-profit, medium- and low-profit and negative relationships for the purpose of taking correct actions aimed at turning unprofitable customers into profitable customers, as well as to increase the loyalty of profitable customers towards the economic unit they deal with and thus

benefit both customers by increasing their satisfaction, and on the economic unit by maximizing itsspirit. (Pfeifer et al, 2005: 7) Form (1) shows the nature of the relationship, economic unity and customer.

The TheoreticalFramework for Accounting for Resource Consumption

Concept of accounting for resource consumption

Resource Consumption Accounting(RCA)is the new generation in thefield of modern management accounting, as this portal combinesthe German Cost Management Portal(GPK)with theCost Input based on Activities(ABC) (Balakrishnan et al,, 2011: 13).

The philosophy of this portal is based on the fact that it is the resources owned by the economic unit that generate costs and therefore should focus on calculating those resources accurately and determining what is consumed from them, and that the pooling and organization of these resources in homogeneous complexes (Hawali, 2013: 85), so that each resource complex has a set of inputs used to produce outputs used by other resource pools or used in different cost objectives (activities, operations, products, or customers) taking into account the subject of entanglement Resource relationships overlap, each resource may benefit one resource and another, and some resources may directly benefit the cost target (Letter, 2009:18). RCA can therefore be **defined as a new cost management accounting portal that provides appropriate information and gives a forward-looking view** of how to optimize the resource avaifactoryle in the economic unit in light of both the desires and expectations of customers and the benefits of demand for services to help reduce product cost, maximize customer value added and assign the competitive position of the economic unit "Small, 2011:85).

RCA isdefined **as** a dynamic, integrated and comprehensive entry point based on the principle of comprehensive management accounting that provides managers with decision support information to improve the performance of the **economic unit, and is characterized by modernity, flexibility and inclusiveness based largely on** the German **GPK** cost accounting portal and an **activity-based accounting portal** "ABCLecturer & Co,2011:1).

Based on the above, the researcher knows how to account for resource consumption as follows:

A cost management portal that combines flexible standard cost input with activity-based cost input to improve the accuracy of measuring the cost of products or services, characterized by providing comprehensive and adequate information that helps to properly plan resources, exclude idle resources and not charge them for products or services in order to reduce costs and increase productivity, as it helps to make strict strategic and operational decisions, which will increase the competitiveness of the economic unit and provide the best ways to satisfy customers.

Research IV/ Scientific Aspect of Research

1. About The Hilla Bags Factory

This plant was established in 2005 belonging to the textile factory in Hilla is one of the formations of the Ministry of Industry and Minerals and this factory produces woven bags of different sizes as well as produce plastic bags for various purposes.

Second: Customers choose the search sample:

The research sample factory has a wide range of customers, including Babil province and most iraqi provinces. The factory deals with more than 2,000 customers directly or contract between the two parties, so it is very difficult in practice to choose a sample in full, and for the application procedure the researcher reviewed the factory

records for a year 2018 After reviewing the sales records, the researcher chose a sample consisting of 16Two customers of direct sale and the rest from the Ministry of Industry and state departments, this sample was selected on the basis of the relative importance of the sales volume achieved from Before them compared to the other customers. According to the table (1Next:

Table (1). Bag factory/suit- Customer sample for 2018

to	Customer name	Customer code for the factory	Customer code for search
1	Southern Fertilizer Industry General Company	1594	A
2	Men's clothing factory in Najaf	1525	B
3	Ghazwan Sobhi Mohammed	1551	C
4	Marketing Complex /Hilla	1538	D
5	Textile factory and wasit sewing	1605	And
6	Carbit Industrial Fiber and Furnishings Plant /Hilla Textile Plant	1543	F
7	Babylon Saints Factory	1532	G
8	General Company for Bright Sulfur	1612	H
9	Directorate of Internal Departments/University of Babylon	1528	I
10	Babylon Children's Educational Hospital	1534	J
11	Green Zone Municipality	1621	K
12	Hilla Municipality Directorate	1640	L
13	Al , Musayib Municipality Directorate	1655	M
14	Jamil Jodi Reda	1576	N
15	Karbala Municipality Directorate	1577	Or
16	Secretariat of Kufa Mosque	1614	P

Source: Preparing the researcher based on factory records

Third: Calculating net sales revenue per customer.

The net sales income per customer is equal to the total sales revenue per customer because there is no discount granted to them or any amount affecting the total revenue.

To calculate the net and total sales revenue per customer, the following mathematical formula is used to extract net sales revenue per customer and shall be in accordance with the following equation:

Net sales revenue = number of units sold *unit sale price

The table shows(2)net sales revenue per customer.

Fourth: The industrial cost of goods sold per customer is the search sample according to a consumption accounting portal.

Table (2). Bag factory/suit- Total industrial costs per customer search sample

Sequenc	Customer code for search	Details											
		PE1		PE4		PE5		PE16		PE18		PE22	
		2968		2828		3150		2945		3120		2788	
		amount		amount		amount		amount		amount		amount	
1	A	250	742000										
2	B												
3	C												
4	D			1060	2997680					10	31200		
5	And												
6	F	140	415520			204	642600	34	100130	263	820560	100	27
7	G												
8	H												
9	I			54	152712					50	156000		
10	J	123	365064	1340	3789520					225	702000		
11	K	5000	14840000										
12	L			12500	35350000								
13	M												
14	N												
15	Or	3500	10388000	3500	9898000								
16	P									3000	9360000		

Table B

Sequence		Details

	Customer code for search	PE46		PE50		PEM		PEZ2		PP2/A		PP2/1		PP
		3413		3089		3439		3097		210		177		17
		amount		amount		amount		amount		amount		amount		amount
1	A									125000	26250000			
2	B	4250	14505250											
3	C													
4	D													
5	And			1000	3089000									
6	F													
7	G													
8	H													10000
9	I													
10	J													
11	K													
12	L					200	687800	370	1145890					
13	M					60	206340	250	774250					
14	N											29000	5133000	
15	Or													
16	P													

Source: Preparing the researcher based on the records of thefactory.

Fifth:Calculating the total profits or losses of each customer search sample.

Table (3). Bag factory/suit- Total profit or losses per customer search sample for 2018

to	Customer code for search	Net revenue sales per customer	Total industrial cost of goods sold per customer	Total profits or losses per customer
1	A	81,975,000	26,992,000	54,983,000
2	B	37,445,000	31,376,470	6,068,530
3	C	4,137,250	4,216,176	-78,926
4	D	3,210,000	3,028,880	181,120
5	And	3,250,000	3,089,000	161,000
6	F	3,129,250	2,900,824	228,426
7	G	735,000	705,960	29,040
8	H	2,500,000	1,770,000	730,000
9	I	312,000	308,712	3,288
10	J	5,301,700	5,039,584	262,116
11	K	14,500,000	14,840,000	-340,000
12	L	39,610,000	37,183,690	2,426,310
13	M	1,050,000	980,590	69,410
14	N	6,525,000	5,133,000	1,392,000
15	Or	20,650,000	20,286,000	364,000
16	P	9,000,000	9,360,000	-360,000
Total		233,330,200	167,210,886	66,119,314

Source: Researcher's Preparation

SadSa: Distribution of indirect costs per customer search sample.

Table (4). Bag factory/suit- Marketing and administrative costs per customer search **sample for 2018**

Sequence	Customer code for search	Details													
		PE1		PE4		PE5		PE16		PE18		PE22		PE41	
		288		285		323		292		301		281		331	
		amount		amount		amount		amount		amount		amount		amount	
1	A	250	72000												
2	B													610	201910
3	C													1273	421363
4	D			1060	302100					10	3010				
5	And														
6	F	140	40320			204	65892	34	9928	263	79163	100	28100		
7	G													180	59580
8	H														
9	I			54	15390					50	15050				
10	J	123	35424	1340	381900					225	67725				
11	K	5000	1440000												
12	L			12500	3562500										
13	M														
14	N														
15	Or	3500	1008000	3500	997500										
16	P									3000	903000				

B جدول

Sequence		Details

	Customer code for search	PE46		PE50		PEM		PEZ2		PP2/A		PP2/1		PP13	
		343		314		342		304		19		16		17	
		amount		amount		amount		amount		amount		amount		amount	
1	A									125000	2375000				
2	B	4250	1457750												
3	C														
4	D														
5	And			1000	314000										
6	F														
7	G														
8	H													10000	17000
9	I														
10	J														
11	K														
12	L					200	68400	370	112480						
13	M					60	20520	250	76000						
14	N											29000	464000		
15	Or														
16	P														

Source: Preparing the researcher based on the records of thefactory.

SA: Calculating the operating profits or losses of each customer search sample.

In this step, the profits or operating losses of each customer are determined by the following mathematical formula:

Operating profit or loss per customer = gross profit per customer - marketing and administrative cost per customer

Table5shows operating profit or losses per customer for 2018.

Table (5). Bag factory/suit- Operating profit or loss per customer search sample for 2018

to	Customer code for search	Total profits or losses per customer	Marketing and management costs per customer	Operating profit or loss per customer
1	A	54,983,000	2447000	52,536,000
2	B	6,068,530	3151710	2,916,820
3	C	-78,926	421363	-500,289
4	D	181,120	305110	-123,990
5	And	161,000	314000	-153,000
6	F	228,426	289146	-60,720
7	G	29,040	69780	-40,740
8	H	730,000	170000	560,000
9	I	3,288	30440	-27,152
10	J	262,116	502049	-239,933
11	K	-340,000	1440000	-1,780,000
12	L	2,426,310	3743380	-1,317,070
13	M	69,410	96520	-27,110
14	N	1,392,000	464000	928,000
15	Or	364,000	2005500	-1,641,500
16	P	-360,000	903000	-1,263,000
Total		66,119,314	16352998	49,766,316

After calculating the industrial cost of the goods sold to each customer the research sample according to the accounting of the consumption of resources as in the third step in analyzing the profitability of the customer, and calculating the total profits or losses per customer search sample as it is in the fourth step, the researcher distributed indirect costs (marketing and administrative) for each customer research sample based on accounting for the consumption of resources, and as a result of the above the researcher was able to calculate the profits or operating losses of each customer sample research as in the step Sixth, in light of this, the operating profit can be compared according to the traditional cost input and the resource consumption calculator input and table6,which shows:

Table (6). Bag factory/suit -Compare the operating profits or losses of each customer according to the traditional entry- Resource Consumption Accounting Portal for 2018

to	Customer code for search	Operating profits or losses per customer according to the traditional entry	Operating profits or losses per customer according to resource consumption accounting portal
1	A	-12,964,750	52,536,000
2	B	-5,665,250	2,916,820
3	C	-82,745	-500,289

4	D	637,460	-123,990
5	And	1,048,000	-153,000
6	F	-1,672,131	-60,720
7	G	-19,500	-40,740
8	H	10,000	560,000
9	I	-238,338	-27,152
10	J	-782,337	-239,933
11	K	-16,795,000	-1,780,000
12	L	7,410,940	-1,317,070
13	M	-774,240	-27,110
14	N	551,000	928,000
15	Or	-9,471,000	-1,641,500
16	P	-16,416,000	-1,263,000
Total		-55,223,891	49,766,316

Through the information avaifactoryle from table5,the operating profits or losses of each customerfor the2018 search show the following:

Table 6, after comparing operating profit according to the traditional cost input and accounting for resource consumption, notes that operating profit according to the traditional cost input was low from the operating profit to account for resource consumption, so the traditional cost input shows most customers are losers, but according to the accounting of resource consumption shows that a percentage of customers are highly profitable.

Based on the above, it can be said that the second research hypothesis, which states:

(The application of resource consumption accounting input improves customer profitability analysis outputs compared to traditional input)

Conclusions

Customer profitability analysis provides information about each customer in order to help management in the process of making appropriate decisions on determining policies that are necessary to develop relationships with customers and provide the best products or services with the best quality and lowest costs in order to maintain a good relationship with them and gain new customers, as well as to identify policies to turn unprofitable customers into profitable. The success of customer cost and profitability analysis is based on choosing the appropriate way to analyze customer costs, accounting for resource consumption is one of the most effective and accurate approaches to the application of cost analysis and customer profitability analysis. The focus on resources while accounting for resource consumption stems from the fact that resources are the real cause of cost and that resources are an energy reservoir. Resource consumption accounting helps allocate indirect costs more accurately and comprehensively and provides customer cost information that helps efficiently and effectively analyze customer profitability, profitability and support the competitive advantage of the plant. As a result of the lack of protection on national products and the increased supply of foreign products, the plant was unable to sell its products at the appropriate prices, which should cover their costs. By comparing the cost of products calculated according to resource consumption accounting with those calculated according to the traditional cost input, the plant's achievement of cost savings at the kg level is evident in most of its products. The factory does not activate the activity of the advertising department to introduce customers to the products of the factory and its features, under which the factory becomes directed by the customer, as well as the search for new markets

to increase sales. The need for economic units to analyze the profitability of customers and identify and retain any of the most profitable customers as well as to turn unprofitable customers into profitable customers by providing the best products at the lowest cost and the best quality and quality to them in accordance with their wishes and requirements. Economic units should exploit their avaifactoryle resources, and the optimal use of resources is a basis for effective cost management. The need to use accounting for the consumption of resources in all productive economic units because of its advantages to help reduce the costs of the productive unit, and to determine the costs of idle energy on the basis of theoretical energy, the clear identification of idle energy for management achieves two objectives. The economic units and the research sample factory are supposed to understand the philosophy of analyzing customer profitability using resource consumption accounting because they provide useful and important information to management that helps them in the decision-making process. The need to pass a law to protect national products in order to help economic units in the public sector and the bag/suit plant to promote their products and provide the best of them so that they can compete in the local market. The management of the Bag/Hilla plant should take care of reports on idle (untapped) energy and find out why it occurs and how to treat it, which contributes to increased productivity. The management of the Bag/Hilla factory should form a multidisciplinary team with high skills and expertise to analyze the profitability of the customer using the accounting of resource consumption in this factory.

References

1. Albalaki, F. M. M., & Majeed, R. J. (2018) "Customer Profitability Analysis, Cost System Purposes and Decision Making Process: A Research Framework" Account and Financial Management Journal, 3(05)
2. Al-Hawali, Khaled Hussein Saleh (2013) "The role of resource consumption accounting in supporting energy exploitation at the Yemeni cement industry facility" Scientific Journal of Commercial and Environmental Studies - Egypt, Volume 4, Issue Supplement
3. Al-Saghir, Mohammed Al Sayed Mohammed (2011) "Proposed framework for integration between ABCII cost input)and resource consumption accounting(RCA)for purposes of supporting the competitiveness of the facility", Business Research Journal,Volume 25, First Issue.
4. Balakrishnan, R., Factoryro, E., & Sivaramakrishnan, K. (2011) "Product costs as decision aids: An analysis of alternative approaches (Part 1)" Accounting Horizons, 26(1)
5. Faria, A. R., Ferreira, L. & Trigueiros, D. (2018). " Analyzing customer profitability in hotels using activity based costing" Tourism & Management Studies, 14(3)
6. Lecturer, T. B. U. A. A., & Co, S. E. F. C. A(2011) "Practical Introduction to Resource Consumption Accounting"
7. Mohamed, A. (2016) " The Relationship Between Revenue Management and Profitability - A Proposed Model" Journal of Business Studies Quarterly, Volume 7, Number 4
8. Niraj, R., Gupta, M., & Narasimhan. C. (2001). "Customer Profitability in a Supply Chain" Journal of Marketing
9. Pfeifer, P. E., Haskins, M.E., & Conroy, R. M. (2005). "Customer Lifetime Valne, Customer Profitability and the treatment of acquisition spend" ,Journal of managerial Issues

10. Speech, Mohammed Shehata (2009) "A proposed framework for integrating the cost system on the basis of activity and accounting for resource consumption to promote the philosophy of management on the basis of value: a theoretical and field study" scientific journal of the Faculty of Commerce - Tanta University, Volume 1, Issue II
11. Sridhar, A., & Corbey, M. (2015). "Customer Profitability Analysis and Customer Lifetime Value" 89E JAARGANG JULI/AUGUSTUS Pitcher, G., (3013) "Customer profitability analysis in support of strategic decisions" GS Pitcher
12. Stefan, P., & Reka, C. I. (2010) "A managerial and cost accounting approach of customer profitability analysis" Annals of the University of Oradea, Economic Science Series, 19(1).