INTEGRATED METHODS FOR PERFORMANCE MEASUREMENT IN ENTITIES FROM THE WINE SECTOR IN ROMANIA

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ABSTRACT. This article highlights the authors attempt to identify modern cost calculation methods and appropriate performance measurement tools and their integration in order to improve the performance of the economic entities from the wine sector in Romania. Identifying methods and tools for performance measurement are based on an analysis of a representative sample of specialists from the economic entities from wine sector in Romania. The article is littered with empirical studies designed to highlight the performance of the economic entities from the wine sector based on using the integrated methods such as Activity Based Costing (ABC) method and Balance Scorecard (BS) method. All the results obtained based on the specific methodology of the methods studied are analyzed by the authors. The article ends with the conclusions of the authors on using integrated methods for measuring performance in the entities from the wine sector in Romania.

Keywords: Activity-Based Costing, Balanced Scorecard, performance, strategic managerial accounting, non financial indicators

JEL Codes: M41, M21

Introduction

The acceleration of the globalization process, the economical and financial crisis, the speed of the technological development, the companies' partnerships and mergers, the disappearance of the organization borders or the development of digital economy are just a few of the main causes which imposed the transformation of managerial accounting in order to adapt the techniques and its specific methods to the new information demands of the entity and company management. The continuous evolution of managerial accounting for the improvement of performance management methods and identifying new dimensions of type cost information related to decision making process and determining the performance of economic entities constituted the premise for choosing this research. Among the objectives taken in developing our study we can mention: identifying posibilities to improve the performances of economic entities from the wine sector by applying integrated methods specific to strategic managerial accounting such as Activity Based Costing method (ABC) and Balanced Scorecard method (BS) and their impact created by using them.The choice of instruments for measuring the performance of economic entities is a current topic in the light of the importance of attributes in the speed and sustainability of decision making by management, whose mission is vital to ensure the success of the business conducted by them.

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Literature review

In the late 1990s it was considered that in the future, managerial accounting will be developed in areas which involve a broad spectrum of interrelated disciplines such as performance management, asset management, environmental management, financial management, intellectual capital management, knowledge management, quality management and strategic management (Sharma, 1998). Reality has confirmed this through the appearance of managerial accounting for environmental management, the concept of corporate social responsibility, development of Activity Based Costing method (ABC), Activity Based Management (ABM), Balance Scorecard method (BS), Life-Cycle Costing method, Target Costing method (TC) and Strategic Managerial Accounting (SMA) in order to develop financial and non financial indicators which must allow the evaluation of intellectual capital or quality. The directions of managerial accounting were focused to integrate it into the risk management strategies, to anticipate the needs of performance and financial management and to finding the most efficient ways to assess the tangible resources and especially intangible of the organization.

Use of non-financial indicators combined with financial indicators of traditional management accounting methods has become a general practice recommended and accepted worldwide. Non-financial indicators began to be studied by numerous specialists 30-35 years ago and were developed in the 1990s (Anthony, Dearden and Vancil, 1976; Parker, 1979; Merchant, 1985; Schoenfeld, 1986; Eccles, 1991).

The relationship between resource planning process and performance measurement was developed through *Pyramid Performance* creating a new vision and strategies for measuring lower levels of both the financial indicators and non-financial indicators (Mc Nair *et. al,* 1990). All this resulted in a strategic measurement system which is Balance Scorecard (BS).

Balanced Scorecard was developed extensively in USA but in Europe too, especially in France was the dashboard was mostly studied and applied. Some specialists agree with the theory that, balanced scorecard was developed based on traditional French dashboard (Chiapello and Lebas, 1996), and other specialists have conducted comparative studies between the dashboard and balanced scorecard which have shown arguments for and against of two performance measurement tools, including their relation to socio-economic context of the country which they applied (Epstein and Manzoni, 1997; Mendoza and Zrihen, 1999).

The most active promoters of Balanced Scorecard were from USA (Kaplan and Norton, 1992, 1996, 1997). Other specialists have published their studies reporting the conditions of implementation and the advantages or disadvantages of Balanced Scorecard (Butler *et. al.,* 1997; Frigo and Krumwiede, 2000). At the moment of publication, in 1992 the method wanted to give a concrete way of performance evaluation and integration of their management in the strategic management of organizations. Four years later the promoters of method, Kaplan and Norton propose to consider it as a performance management system and publish the first book that explains the practical aspects of implementing the method.

At the appearence of the second publication dedicated to Balances Scorecart method in 2000, the authors brought to the attention of theoreticians and practitioners another aspect of the method-that of strategic management and control tool. The same authors introduce in the year 2004 the concept of strategic map which support the importance of the method in strategic management process previously explained and direct ways to implement it.

2008 was another important moment in the development of Balanced Scorecard, Kaplan and Norton arguing how instruments specific to the method lead to the alignment of strategy with operational area of activities. Also, the components of the method contained in the dashboard are the central element when the strategy turns into action.

From the historical point of view, the emergence of ABC was marked by various events, such as the '60s period characterized by a high volume production and low range products, which led to application of the methods known to be traditional type.

Also in 1960, accountants from General Electricare were facing a high volume of indirect costs, and for the first time they used the concept of activity just to describe the expenses caused by the stages of production, inventing a system which was based on activities for identifying costs. Years '70 and '80 were characterized through reduction of industrial superiority of the United States of America.

This was due to the need to develop new procedures for calculating costs, while the indirect costs gained a bigger role in the cost of production at the expense of direct costs. Knowledge and proper allocation of indirect costs was completed by the analysis of the causes that determined their volume. In the late '80s, C.A.M.I. (Consortium of Advanced Manufacturers International) first defined ABC as a method for identifying the causes of the connections between the activities cost and the cost drivers by measuring the process costs which activities referres to and cost objects.At this stage of development of managerial accounting, Activity-Based Costing method itself was known as a strategic initiative of the costing in business and is considered by experts an innovation in management costs. ABC identifies its origin in the U.S. in the late 80s, in "*The hidden factory*" paper (Miller and Vollmann, 1985). ABC promoters undergone a critical study the areas and places of common costs (indirect), and concluded that the decisive step for controlling indirect costs is to develop a model to detail and structure the causes the costs (Ebbeken *et. al*, 2000). Causes of activity cost calculation have their origin in changes in strategic positions of the entities, changes in demand of information for management, weaknesses in traditional cost calculation systems

The first attempt to construct a system of activity-based costing is attributed to American specialists Kaplan, Cooper and Johnson. Their efforts were limited to the transposition of direct tools of the reference with double function, elaborated and developed later in the plan cost calculation for production sectors on auxiliary sectors and places. In this direction others specialists have expressed similar concerns on the design and implementation of ABC (Porter, 1985; Lorino, 1997; Lebas, Mevellec 1999). According to studies of managerial accounting professionals, ABC method helps to refine the cost system by identifying individually activities as a foundation of objective cost (Horngren *et al.*, 2009). ABC method was one of the challenges that cost calculation was exposed when it was felt the need to eliminate waste in all areas that generate expenses.This method refuses imputations in cascade and seeks to preserve the relationship between costs and causes that triggered (Bouquin, 2004). In European context ABC method consists in placing between responsability centers and products a intermediate category: calculation activity on activity costing offered by different centers and determining the proportion in which this products uses this type of activities for obtaining a much more reliable evaluation of products costs (Tabără and Briciu, 2012). Very inportant are the research made on budgeting and development line of some systems based on the responsability centers related to managerial accounting (Răchişan *et. al*, 2010; Groşanu *et. al*, 2009). Empirical research conducted on the effectiveness of the ABC method highlighted benefits by supporting the ongoing improvement process by developing methods for determining actual costs by increasing financial performance.

Research methodology

Research questions

To achieve the main objective of our scientific approach respectively identifying opportunities to improve the performance of the wine industry, we used a empirical study at a economic entity in the field, by applying integrated methods belonging to strategic managerial accounting. With other words we tried to find answers to the next questions:

1. What would be the most viable and effective performance measurement integrated methods for entities from wine industry in Romania?

2. Which are the advantages offered by the integrated methods for measuring performances?

3. Which would be the impact created by using this tools on entities from the wine sector in Romania?

Instrumentation

This study was done by observing principles and specific rules of mixed research methodology. Research techniques and procedures used were: review of the literature, the use of various information sources, gathering and processing of data, summarizing the theoretical and research results and the questionnaire. This latest research technique we used to realize the empirical work of the paper. Questionnaire was used for the empirical part of our study and was structured to meet the objectives pursued and finding answers to research questions released. Questionnaires were sent electronically to 42 respondents situated on different hierarchical levels of an economic entity from wine sector, as follows: upper management 9 and 33 specialists in various departments. After collecting the questionnaires and performance data centralization, situation is as follows (tabel 1):

Table no.1.

Situation of categories of respondents

Questions/Answers	Category of respondents			
	Management		Specialists from departments	
	for	against	for	against
1. *What would be the most viable and effective performance measurement integrated methods for entities from wine industry in Romania?*				
a) Standard-Cost method	44,44%	55,56%	33,33%	66,67%
b) Activity-Based Costing method	88,89%	11,11%	75,00%	25,00%
c) Balanced Scorecard method	77,78%	22,22%	62,50%	37,50%
2. *Which are the advantages offered by the integrated methods for measuring performances?*				
a) simplicity, efficiency and reduced calculation time	50,00%	50,00%	54,16%	45,83%
b) reduced costs andreduced calculation time	55,56%	44,44%	50,00%	50,00%
c) efficiency, reduced costs, profit maximization	83,33%	16,67%	83,33%	16,67%
3. Which would be the impact created by using this tools on entities from the wine sector in Romania?				
a) reducing costs	66,67%	33,33%	66,67%	33,33%
b) gradual improvement in the results of the entity	88,89%	11,11%	83,33%	16,67%
e) profit maximization	77,78%	22,22%	62,50%	37,50%

In terms of graphic (Figure 1) the situation is like this:

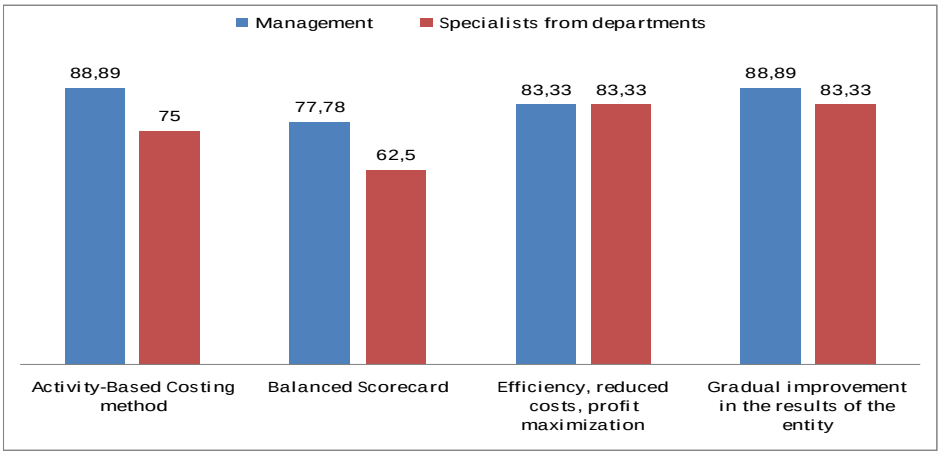


Figure no. 1. - Graphic representation of the responses of people interviewed

As it can be seen, the largest share in both categories surveyed on three questions pursued in our study advocated for use of Activity-Based Costing and Balanced Scorecard as effective and viable tools in offering efficiency, lower costs and contribute to the gradual improvement of the results of the entity.

Integrated tools for performance measurement in entities from the wine sector in Romania

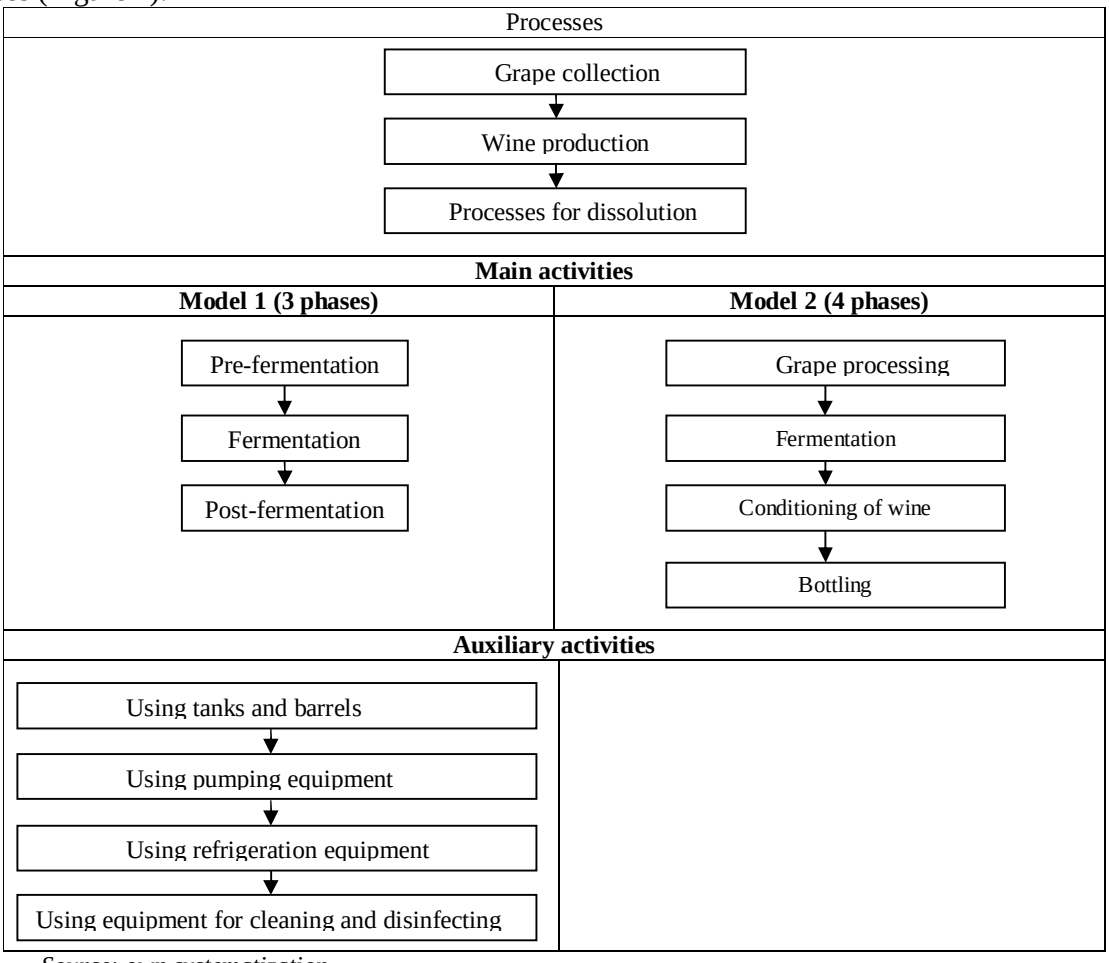
Activity Based-Costing method

Using the ABC approach involves initially rearranging the organizational structure in a transversal way, as a set of processes that cuts an organization and crosses all the responsability centers and the hierarchical levels. ABC method "pilotage element of costs and transverse processes performance gives readable representation of the activities of operational officers (Demeestère, 2004), being based on an idea of improvement. Reduction of hierarchical levels and better coordination of actions are influenced by the reorganization objectives, namely the adoption of the three levels of transversal analysis (the processes, activities, and operations).

ABC calculation according to the specific entities from the wine sector, in a simplified form, involves the following steps:

1. Establishing the hierarchy of processes and identifying the main activities (auxiliary);
2. Establishing the cost drivers and building quantitative structures;
3. Allocation of costs indirectly to products based on specific drivers;
4. The calculation of the production cost

For the implementation of the ABC method is necessary to divide the production process in its component activities. This division, however, must be made in such a way that a balance between information needs and the cost of obtaining and processing such information must exist. We consider two of the models for the production of wine from the point of view of manufacturing phases (Figure 2).



Source: own systematization

Figure no. 2. - Identification of the processes and activities

Table 2 shows the composition of the costs of auxiliary activities.

Table no.2.

Composition of the costs of auxiliary activities

Costs clasification	Content	Contained costs
Basis equipment	- tanks, pumps, cooling installations, machinery	- maintenance and operating costs, depreciation
Auxiliary equipment	- valves, hoses, taps	- annual cost of replacement
Other costs asociated to the auxiliary activities	- water, chemicals for cleaning, electricity, preparation of activities, quality control	- acquisition cost
Indirect costs	- cleaning tanks and barrels after use, maintenance of cooling systems between two uses	- labor price

Source: own systematization

An important step in applying ABC method is the identification of the asociated costs and the cost drivers. At the end of each activity, the wine cost from a certain phase is composed from the amount of grape, mash and wine from a previous stage at which is added the costs of different activities made for processing.

Regarding the costs of each activity, they can be grouped into direct costs and specific costs necessary to conduct the activity.

The direct costs will include labor costs concerning manufacturing or control its consumption of auxiliary materials (sulfur dioxide, bentonite etc.) the cost of specific equipment use and maintenance, equipment depreciation costs, energy and water costs and other costs directly identifiable as being specific analyzed activities. Additional or auxiliary costs include the costs of auxiliary activities (pumping, cooling, storage, etc.) that are needed to run the main activity. Table 3 presents a summary of the processes-activities-related costs-cost drivers' scheme that will be further developed in the case study by allocating appropriate monetary values.

Table no. 3.

Processes-activities-related costs - cost drivers scheme

Processes	Activities	Related costs	Cost drivers
Collecting grapes, reception and quality testing	Selecting grapes, collecting and transport	Direct costs: the cost of grapes, labor hours price, transport activities cost	**Kilograms of grapes**
	Grapes reception (quality testing, weighing, discharging)	Direct costs: labor hour price, depreciation of equipment, energy	
	Related activities	Auxiliary costs: the cost of ancillary materials (shovels, buckets etc.)	
Wine production	Activities before fermentation: - destemming - crushing - Pumping in fermentation tanks	Direct costs: labor hour price, raw material cost (previously calculated), costs associated of equipment (depreciation, maintenance, cleaning), electricity Indirect costs associated auxiliary activities: preparation equipment	**No. of days** **No. of types of wine produced** **The amount of wine on types of wine**
	Fermentation		
	Post-fermentation, maturation and aging		
	Related activities: -Equipment preparation - Guard cellar		
Disposal of wine	**Mixing different varieties of wine**	Direct costs: the cost of wines blended, hourly rate of direct workers, the cost of equipment (depreciation, maintenance, energy consumption) the cost of auxiliary materials	**No. of bottles**
	Clarification and stabilization		
	Preparing for sale (bottling, corking, labeling)		

Source: own systematization

For the first activity, we have the following equation for determining the cost of raw materials:

Cost of raw materials$_1$ = Cost of grapes + Proportionate costs related to the activities performed for collecting grapes (1)

For other activities, the relationship will be one recurrent:

Cost of raw materials $_i$ = Cost of raw materials $_{i-1}$ + Proportional costs for specific activities$_{i-1.}$ (2)

After allocating direct and indirect costs on the activities identified in the ABC method has resulted the following situation (Table no. 4):

Table no.4.

Direct cost allocation on activities according to ABC method

P1. Grape reception					
A 1.1	Collection/purchase raw materials	grapes	wag	365.8	**2926400**
A 1.2	Grape reception: - Testing the quality - weighing	**Total manual work:**			**2898.54**
	Grape reception: - Testing the quality - weighing	Direct revenues	wag	365.8	860.68
	Grape reception: - Testing the quality - weighing	power auger	wag	365.8	2,037.86
		Total materials of which:			**194.3**
A 1.3	Related activities	shovels	units	10	24.3
		buckets	units	40	48.6
		straw brushes	units	50	60.7
		mature	units	100	60.7
	Total direct costs P1		wag	365.8	**2929492.84**

P2. Wine production					
A 2.1	Pre fermentation activities	**Raw materials:**			**2929492.84**
	- destemming	- grapes	wag	365.8	
	- crushing	**Total manual labour:**			**480.58**
	- pumping in fermentation tanks	power auger	wag	365.8	2,037.86
		maintenance bunches	wag	365.8	1,272.81
		Directing pomace by pressing	wag	135.3	79.33
		Serving presses	wag	135.3	318.35
		Placing the tape marc	wag	58.5	130.00
		Sulfitation grapes + must	wag	365.8	898.91
		Serving pumps mash decanted	wag	65.9	40.78
		Transferring burble decantation	wag	54.9	101.18
		Transfuse mash oversulfitation	wag	11	20.27
		Maintain daily hygiene	wag	850	934.47
		Total materials of which:			**5317.02**
		Bulbs	units	50	14
		Rivets	kg	45	56.1
		Sulphur	kg	200	59.4
		Rush	kg	400	93.4
		Paraffin	kg	500	336
		Calcined Soda	kg	1000	179
		Bentonite	kg	8000	2990
		Gauze	ml	30	1.12
		Oak staves	mc	10	1121
		Checker plate	kg	500	467

	Total direct costs A2.1				**2935290.44**
A 2.2	Fermentation	**Raw materials:**			
		- mash			**2935290.44**
		Total manual labour:			**4527.22**
		Transferring mash oversulfitation	wag	11	25.88
		Supervised installation concentrated mash	wag	274.5	432.21
		Quantitative and qualitative reception concentrated mash	wag	274.5	125.67
		Transferring concentrate mash	wag	274.5	505.91
		Conditioning dishes	wag	530	1,165.34
		Maintain daily hygiene	wag	800	879.5
		Prepared SO2 solution	wag	450	247.36
		Prepared dishes for wine	wag	450	989.44
		Prepared wine inventory	wag	450	6.8
		Prepared spaces for wine	wag	450	989.44
		Transport equipment and mounted	wag	450	765
		Transferring after fermentation	wag	274.5	754.45
		Warehouse evacuation	wag	27.5	45.35
		Washing dishes	wag	274.5	452.67
		Transfuse yeast	to	274.5	905.34
	Total direct costs A2.2				**2939817.66**
A 2.3.	Post fermentation	Raw materials:			2939817.66
	Maturation and aging	**Total manual labour:**			**4155.15**
		Preparing Sulphur filters	wag	247.1	351.55
		Making full and SO2 correction	wag	247.1	607.22
		Wine treatment with bentonite	wag	247.1	351.55
		Sampling Laboratory	wag	247.1	581.4
		Maintain daily hygiene	wag	225	247.36
		Making full and accurate SO2	wag	274.5	169.87
		Laboratory samples	wag	248.7	273.41
		Transferring decanting	wag	274.5	606.98
		Warehouse evacuation	to	274.5	60.47
		Washing dishes	wag	274.5	603.56
		Transfuse yeast	to	274.5	301.78
		Total materials of which:			**8152.34**
		Lamps	units		280.34
		Wire brush	units		124
		Insulating gloves	units		56
		Fir wood	mc		1,240.00
		Pine ball	mc		765
		Limestone	kg		125
		Paint	kg		676
		Cement	units		345
		Galvanized sheet	kg		512
		Other materials	kg		2256
		Coveralls	per		1298
		PSI hose	ml		54
		Rubber boots	per		421
		Electricity	kw	1000	**1100**
	Total direct costs A2.3				**2953225.15**
A 2.4.	Related activities	Guard cellar	hours	2110	1200
	Total direct costs A 2.1-A 2.4				**2954425.15**

P3. Disposal of wine					
A3.1.	Blending fermentating wines	Raw materials:			2954425.15
		Lucrări manuale total:			**497.01**
		Quality wine reception	Wag.	290	61.89
		Medium samples for laboratory	t	290	95.11
		Unloading wine	t	290	178.16
		Blending wines	t	290	161.85
	Total A 3.1				**2954922.16**
A3.2.	Clasification and stabilization	**Raw materials:**			**2954922.16**
		Total manual labour:			**4935.67**
		Wine treatment with bentonite	t	290	206.29
		Homogenization of wine	t	290	226.92
		Pulling wine on deposit	t	290	142.53
		evacuation warehouse	t	290	127.53
		Treatment of wine with tannin and gels	t	290	206.29
		Mixing and blending wine	t	290	185.67
		Dragging wine on the lees	t	290	142.53
		Subjecting the wine to heat shock	t	290	742.65
		Wine filtration for work	t	290	618.88
		Dragging wine in pressure dishes	t	290	168.79
		Making fullness	t	290	79.70
		Making decanting	t	290	142.53
		Correction alcohol blends MC	t	290	1,155.65
		Correction blends sorbic acid SO2	t	290	1,155.65
		Reception concentrated mash		290	57.84
		Transferring dispatch yeasts	t	14.5	47.82
		Conditioning dishes	t	530	1,165.34
		Prepared SO2 solution	t	450	247.36
		Sulphite of wines with SO2	t	365.8	1,005.38
		Energy:			**24,274.80**
		Pumps	kw	90	7,499.94
		Ventilation	kw	201.3	16,774.86
		Total materials of which:			**34,213.28**
		Particle filter	units	30	4,680.90
		EC sterile plates	units	30	20,163.90
		Sulphur dust	kg	0.6	5.4
		Trisodium phosphate	kg	0.03	3.6
		Calcined soda	kg	0.03	4.86
		Bentonite	kg	10	286.86
		Gelatin	kg	0.05	28.51
		Citric acid	kg	5	1,500.29
		Sorbic acid	kg	2	6,601.28
		Ferrocyanide K	kg	0.15	58.51
		Bicarbonate K	kg	1.5	801.15
		SO2	kg	1	78.02
	Total A 3.2				**3,018,345.91**
A3.3.	Prepairing for sale	Raw materials:			3018345.91
		Total manual labour:			**33193.39**
	- botteling	Salaries foreman and shift boss			2376.88
	- Sealing	Powered empty bottles tape	mb	2500	417.33
	- Labeling	Powered dishwasher with detergent and lye water	mb	2500	378.23
		Mechanical washing bottles	mb	2500	575.63
		Control bottles washed	mb	2500	546.68
		Filled bottles of wine mechanically	mb	2500	1604.53
		Control full bottles	mb	2500	546.68
		Returned bottles with impurities	mb	2500	521.72

P3. Disposal of wine					
		Stapled or mechanical sealing	mb	2500	575.63
		Applied thermal hoods	mb	2500	518.36
		Labelled mechanically	mb	2500	758.1
		Applied flyers	mb	2500	575.63
		Leveling bottles containing	mb	2500	758.1
		Control bottles aesthetic	mb	2500	758.1
		Control CTC - end band	mb	2500	546.73
		Retrieved bottles from band - sitting shuttles	mb	2500	1555.07
		Sort shuttle	mb	2500	417.33
		Transport crates and pallets broken	mb	2500	417.33
		Sitting empty crates on tape - received	mb	2500	575.63
		Washed and sanitized with softened water	mb	2500	539.24
		Washed and sanitized bottling plant sterilization	mb	2500	539.24
		Filtered wine (filter format - removed cards)	mb	2500	523.38
		Pasteurized wine	mb	2500	628.05
		Sort and label dating	mb	2500	518.69
		Quantitative and qualitative reception of bottles	mb	2500	582.86
		Shards removed and taken to the container	mb	2500	7.56
		Hygiene Washing Filling	mb	2500	518.36
		Purchasing materials	mb	2500	417.33
		Placing of bottles in cardboard	mb	2500	758.10
		Secured and sealed boxes	mb	2500	518.36
		Placing boxes on conveyor belt	mb	2500	1236.85
		Handling containers filled	mb	2500	4785.58
		Handling of empty packaging	mb	2500	4785.58
		Plugs removed manually	mb	2500	46.96
		Stained glasses manually washed	mb	2500	352.22
		Prepairing and closing activities	mb	2500	758.1
		Energy and water:			**16490.63**
		Energy	kw	150000	16,490.63
		Total materials of which:			**123781.07**
		Spare parts			5002.16
		mature pvc	pieces	30	21.87
		Brush for washing glasses	units	100	36.44
		Brushes PVC	units	20	10.93
		Lighting lamps	units	10	11.66
		Different paint	l	100	388.74
		Caustic Soda	Kg	7000	3,061.32
		Calcined Soda	Kg	3500	1,020.44
		Trisodium phosphate	kg	3000	1,749.33
		metal staples	units	2000000	9,146.80
		Cork stoppers	units	320000	14,955.02
		Thermal hoods	units	680000	7,094.49
		Particle filter	units	16000	28,583.76
		carton boxes	units	25000	11,433.50
		Role gelux	units	800	291.55
		Wine labels 0,75	units	310000	1,196.23
		Wine labels 1/1	units	1930000	7,447.50
		Bands	units	2230000	18,141.89
		Stack PVC		500	824.53
		Bottles 1/1		70000	11,004.75
		Bottles 0,75		15000	2,358.16
	Total A3.3				**3,191,811.00**
	Total P3				**3191811**

Source: own calculations

For calculating the unit cost on activities and on products, it is necessary the quantitative determination of the cost drivers, which is made based on technology of production records, and accounting data (Table no. 5.)

Table no. 5.

Calculation of unit cost of production by the ABC method for assortment Italian Riesling

Activities	Direct costs	Indirect costs	Total cost	Driver value	Cost/driver	UM	Driver value/Type	MU
A 1.1	2,926,400.00	3,955.07	2,930,355.07	365.8 wag	8,010.81	lei/wag	0.8011	lei/kg
A 1.2	2,898.54	4,163.72	7,062.26	365.8 wag	19.31	lei/wag	0.0019	lei/kg
A 1.3	194.30	3,697.82	3,892.12	365.8 wag	10.64	lei/wag	0.0011	lei/kg
	2,929,492.84	**11,816.61**	**2,941,309.45**		8,040.76	lei/wag	0.8041	lei/kg
A 2.1	5,797.60	21,095.86	26,893.46	9 varieties of wine	2,988.16	lei/type		
A 2.2	4,527.22	50,141.30	54,668.52	6 days	9,111.42	lei/day	2,024.76	lei/type
A 2.3	13,407.49	61,160.92	74,568.41	30 days	2,485.61	lei/day	1,104.72	lei/type
A 2.4	1,200.00	43,084.26	44,284.26	120 days	369.04	lei/day	3,690.35	lei/type
	2,954,425.15	**187,298.94**	**3,141,724.09**					
A 3.1	497.01	43,665.96	44,162.97	100000 bottles	0.44	lei/bottle	0.44	lei/bottle
A 3.2	63,423.75	27,213.74	90,637.49	100000 bottles	0.91	lei/bottle	0.91	lei/bottle
A 3.3	173,465.09	77,670.10	251,135.19	100000 bottles	2.51	lei/bottle	2.51	lei/bottle
	3,191,811.00	**335,848.74**	**3,527,659.74**		35.28			
						Total cost of production	**6,825.29**	
						Quantity produced	**1,000.00**	
						Production unit cost	**6.83**	

Source: own calculations

Balanced Scorecard

Starting from the statement of Lord Kelvin who states that you can not improve what you do not measure, Norton and Kaplan in 1992 introduced the concept of Balanced Scorecard (BS) based on the results of a study by Nolan and Norton on measuring the performance of companies whose intangible assets play a central role in value creation. The result of the study was to obtain a set of indicators that can give managers a fast but comprehensive view on the performance of the entity. At the same time, the authors hypothesized that tracking performance using this holistic approach will increase the likelihood that organizations achieve their goals; this hypothesis was confirmed by studies conducted in the last twenty years (Chenhall and Langfield-Smitth, 2007). Due to the success of the method applyed by a large number of companies, limited to intangible assets initial concept was extended to the necessary management tool description, communication and implementation strategies (Kaplan, 2010). According to the authors, the method Balanced Scorecard is defined as a management system that enables organizations to clarify their vision and strategy and transform them into actions (Kaplan and Norton, 1996). According to another definition Balanced Scorecard method is a multidimensional approach to performance measurement and management, strictly related to the organizational strategy (Otley, 1999). Experience has shown that measuring the performance of an organization is a process without which you can not define a management strategy, the utility method BS being so obvious.

By offering performance indicators is provided both useful information to decision making process and a basis for many activities such as (Kaplan and Norton, 1996):

- Strategic feedback to those involved in decision making about the current state of the organization of the four perspectives;
- Diagnostic feedback provided to a variety of processes in order to target improvements in progress;
- Identification of performance trends over time;
- Providing quantitative inputs in the forecasting models and decision support used.

Performance indicators should reflect the most important results of the entity (relevance) they must be easily calculated from the available data in various departments (measurability), to correlate the results of all entity levels (integration capacity) to have a clear formula of calculation and its foundation so that various approaches to lead to the same calculation modality (reliability). Also, the indicator system must be able to provide an estimate of the trend of future results (sustenability), the results provided must be managed, and how they are formulated must be easily explained to the stakeholders (communicability). It is also important to ensure the consistency of indicator system, a way to control the possibility of manipulation of results (reliability) as well as a large enough variety of indicators that can provide a clear and detailed picture to the personnel on specific objectives achieved (differentiation).

Balanced Scorecard turn the vision and strategy of an economic entity into objectives and performance measures grouped into four areas: learning and development, internal processes, financial and customer satisfaction, which are key indicators in identifying causal relationships between them. Organizational learning and development perspective examines the changes and improvements needed by the economic entity in order to turn the vision into reality. The perspective of the internal processes describes the identification of the main business processes which must be applied to respond to the needs of the customers and the shareholders. In other words the main process should identify indicators that the economic entity wants to control who will be part of balanced scorecard. The financial perspective helps to identify the image that entity want to show to the shareholders, while the clients perspective helps establish the image that the economic entity adopts to the clients. Synthetic on steps go like this:

Step 1. Defining the vision, mission and strategy

The success of the economic entity can be achieved by managing the rapid changes in the evolution of the wine industry from a fragmented farming industry towards a professional industry as well as the modification of the clients needs through continous adapting to inovations at the market demand and at its complexity as well as consumers needs.

The mision of the company is: to achive a market share which is enough for the company to be the leader at the national level, as well as positioning in the top ten European wine producers; strengthening its position in the local market by offering quality wines and expand the distribution network in especially exports; sustainable growth of the business both in terms of turnover and maximize shareholder value.

The company's strategy is to: expand the distribution network, introduction of new types of wine in production; maintenance and strengthening the position owned on the market of wine producers; fast adaptability to local and international market of wine; reducing dependency on certain markets or groups of products. The main values of the company include: focusing on consumer requirements; customer loyalty; focus on quality and sustainability of the business; maintaining a friendly climate in relations with employees; business practice respecting ethical values of honesty and integrity.

Step 2. The development of operational objectives that characterize the performance, indicators to measure their achievement, including the targets

The creation of performance measures was taken to ensure the link between them and the strategic vision of the organization. Also, to each object defined in the four perspectives was associated at least one performance indicator associated with that object characterization. Indicators were defined exactly, including object of calculation, method of quantification, the data and the time period under evaluation (Tables 6-9). In defining or choosing indicators, it was intended to include both quantitative quantities and qualitative. Even if quantitative sizes provide objective information that can serve to justify management decisions related to resource allocation, quality sizes are also important, even if they have a high degree of subjectivity being based on the experiences of customers, managers and employees. What is crucial, however, is to ensure a balance between qualitative and quantitative indicators.

Table no. 6.

The financial dimension

Objectives	Indicators	Targets	Action / Initiatives
Maintaining a certain level of current liquidity to ensure normal activity	Cash flows	- Maintaining at a constant level cash flows	- Monitor the collection of receivables
Keeping turnover to a level at least equal to that of the previous year	Turnover Variation of turnover	- Increased turnover by 5% from the previous year	- twice a month analysis of the turnover
Profit growth	Market share Financial rate: ROI, ROE	- increasing market share with 10% - The existence of positive changes in the value of financial ratios calculated in relation to the previous year	- Monthly analysis of the market share - Monthly calculation of financial indicators of efficiency

Source: author's own vision

Table no. 7.

Dimension customers

Objectives	Indicators	Targets	Action / Initiatives
Developing new type of wine	Percentage of new varieties of wine sales in total sales Report new varieties / varieties existing	-indicator value 5% -growth of new products by 10% over the previous year	-monitoring research and development activity - Continuous analysis of the market, especially the main competitors
Developing partnerships with major customers	Variation of the number of regular customers	-increased by 20% of regular customers -attracting a number of 4 customers belonging to the international market	- Permanent contacting potential clients on domestic and foreign market - Expansion of distribution channels - Improve the efficiency of sales department
Ensuring continuous distributions	On time distribution of products (valued by customer)	- Achieve a minimum score of 4 provided by customers (on a scale of 1-5) for rapid fulfilling orders	- Preparing and completing questionnaires by major customers
Maintaining customer loyalty	Sales situation on customers and periods	- 5% increase in sales per client older than one year	- Preparation of sales reports twice a month and analysis of their dynamics

Source: author's own vision

Table no. 8.

Internal processes

Objectives	Indicators	Targets	Action / Initiatives
Improving technology lines	The value of investments compared to the turnover	- Increased investment compared to the previous year by at least 10%	- Analysis of investment needs
Efficiency of technological processes	The time value of production cycle on varieties of wine The unit cost of each wine variety Operating profit on wine varieties	- Reduction of the production cycle - Lowering the cost of production by 5% - Operating profit increased by 5%	- Updating manufacturing lines - Analysis of production costs by ABC method - Analyze monthly operating profit by categories of activity and products and to identify areas that can be improved
Products design	Number of modifications brought to the labels	- Change of at least 25% of the labels	- the existence of a permanent concern for product design
Developing new products	Report new products / existing products	- Introducing a minimum of 2 new products	- Monitoring the progress of the development of new products - Continuous analysis of market competitors

Source: author's own vision

Table no. 9.

Growth and Learning

Objectives	Indicators	Targets	Action / Initiatives
Increasing staff qualification and specialization	Number of trainings / No. employees Percentage of employees trained regularly	- Increased by 15% from the previous year of trainings conducted - 40% increase in the number of employees participating in training activities	- Develop a plan for human resource development by specialized department - Identify training needs of staff - Monitoring the performance of employees participating in training activities
Focusing on product quality	No. Scrap / production value	- Weekly analysis of the number of rejects Decrease waste by at least 10% over the previous year	- Identify the causes of the existence of scrap
Introduction of new products	Number of products introduced / No products entered by the main competitor	- introduction of at least two new products	- Continuous analysis of market - Improve the efficiency of research and development department - Identify potential market opportunities for niche products

Source: author's own vision

Remarks based on the cases presented and analyzed

The most important step in the modeling phase of the ABC system is gathering information on the needs of users of the system (which are key decisions that they need to develop and that is the frequency with which this work is done, or what information about their costs are needed in decision-making) to be made in detail, through direct talks made between a member of the implementation team and each user, and by filling in questionnaires.

Another very important element is the creation of ABC model that identify resources, drivers, activity centers, cost drivers and cost items and cost benchmarks. Transposition activity of the operations and processes performed within an entity is complex and requires time to analyze the information and identify the key ones (as we noted above, the level of detail of activities is an important factor in the implementation of the ABC method - a too much detailing can consume too many resources compared to the results provided, as a superficial detailing may not provide information relevant to the decision-making process). But the most important step in developing the model is to identify resources and cost drivers which must be chosen so as to reflect a cause and effect relationship. A correct identification of subsequently allow simple allocation of resources to activities and then of activities on products.

Balanced Scorecard incorporates causal relationships with impact on strategic objectives, allowing periodic assessment of critical success factors and making adjustments if necessary. Knowing in detail the causal relationships by analyzing dashboard managers observed deviations from targets as soon as they occur and can act quickly on the factors that produced them (Boța-Avram, 2012).

Another benefit of applying the ABC method is to use the data provided by it in applying Balanced Scorecard method, the second part of the empirical study showed how the two methods can be integrated. Purpose of implementing the Balanced Scorecard method consisted in: facilitating the achievement of the company's mission and objectives set, aligning the company's existing standards work to the wine industry standards, ensuring consistency between existing activities redefined in the context of strategic management approach, providing a tool to evaluate the activity and measure the progress.

Conclusions

In the implementation of the ABC method there are a series of previous activities effective implementation of the method, which should be given particular importance because it influences directly the success of its implementation and objectives set, such as defining form of ABC system, continuous training of both the implementation team members and personnel, continue gathering of information developing a general or permanent revision of the method performance.

To properly reflect the vision of the company's staff in the design and implementation of method, it is necessary to form a team comprising representatives of the departments of production, accounting, sales, IT and R & D, and to have very good and detailed knowledge of all operations performed in their departments and also personal qualities that facilitate a good communication of the results they obtain to other employees as well as knowledge transfer.

A series of important decisions need to be developed in the design phase of the model when it is important to determine if it will be an independent or an integrated system in the existing management accounting system, the degree of accuracy or detail of the work, how they wish to elaborate reporting, and its complexity. Relative to the training the parties involved in the the implementation of the ABC system it should be targeted three levels of staff: senior management, the implementation team and the users of the system, which is required to be given training differentiated according to their specific needs.

As can be seen from the analysis of the elements contained in the four dimensions designed to implement the Balanced Scorecard method, the method concerns the company's future, and what it wants to achieve. The central point of the method refers to the strategy and vision, and not to

exercise excessive control and central premise is that employees will adopt the necessary behaviors and will exercise responsibilities to achieve them. Therefore, the definition of concrete measures to assess the four dimensions is important for employees to provide them a basis for self-assessment and subsequent evaluation.

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