

Use of the Dashboard as a Tool in the Management of Economic Entities

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Abstract: The dashboard is the tool that capitalizes on how to generate actions to improve the performance of the economic entity (Căpușneanu, 2008, p. 297). The use of the dashboard as a tool in the management of economic entities is recommended in any analysis or managerial activity in which managers, based on information on the results obtained from the implementation of various activities, capitalize on the effectiveness of continuing economic activity under the same or other conditions.

Keywords: dashboard; performance; piloting; entity; strategy

JEL Classification: M41

1. Introduction

The structure of a dashboard is designed to track physical and economic indicators in order to achieve performance, but also to anticipate it, the composition of the indicators at ascending and descending level feeding all three levels regarding the organization of an economic entity, presented in the figure below (Ristea, Olimid & Calu, 2006, p. 347):



Figure 1. Levels of Setting Indicators

Source: own processing after: Ristea, Olimid & Calu, 2006, p. 347

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The dashboard finds its utility in different contexts (Cucui & Man, 2004, p. 263), presented in Figure 2:

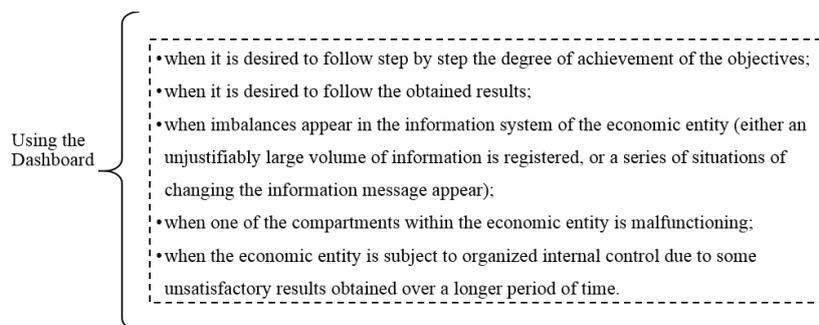


Figure 2. Situations of use of the Dashboard

Source: own processing after: Cucui & Man, 2004, p. 263)

The role of synthesis means for the activity of the entity that aims to achieve efficient strategies determines that the dashboard fulfils a series of features, presented in Figure 3:

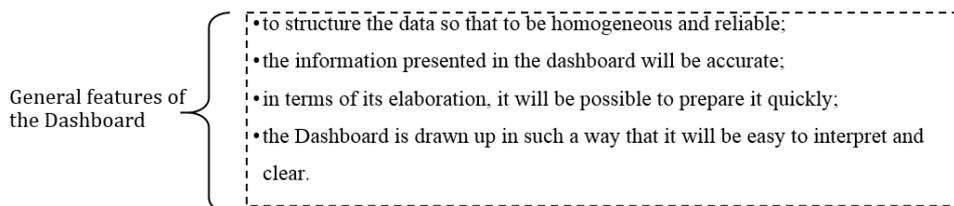


Figure 3. Dashboard Features

Source: own processing after: Jaba, 2002, p. 356

2. Literature Review

Financial analysis, including on the basis of the dashboard, is defined as the study of an enterprise by an outside observer (or inside the enterprise) who can be a potential investor, can be a banker, or can be any other entity that has an interest in knowing the financial situation of the company (Forget, 2005, p. 13).

The appearance of analysis as a research method was outlined in order to decompose a phenomenon or an activity into its component parts, in order to better understand them. Dealing with financial activities or phenomena by using a set of concepts, techniques and tools (Cohen, 2006, p. 63) (including the dashboard), respectively by focusing on resource consumption and interpreting the results obtained on the basis of cause-effect or structural-functional relationships, is considered vital.

In an economic environment under the pressure of the globalization phenomenon,

whose tendency is to transform from complicated to complex (Niculescu, 2000), the economic-financial analysis has the role of explaining the economic and financial phenomena through the relations delimited within a set of elements (structural analysis) and through influencing factors (factor analysis). Also, the analysis can be performed in various forms (types) in order to respond as well as possible to the established objectives, and the stages of its realization can be adapted to concrete economic conditions.

We consider that from the point of view of its importance, the activity of economic-financial analysis, including on the basis of the dashboard, is placed in the middle of the field of links between the functions of the enterprise and the functions of management, which means that the realization of any attribute of the management involves conducting the economic analysis as an indispensable tool for the substantiation of the decisions

In the current conditions of increasing the complexity of the economic activity of enterprises and, implicitly, of the decision-making act, the economic-financial analysis is positioned as an essential coordinate of the strategic global diagnosis, in general, and of the economic-financial diagnosis, in particular. Financial analysis aims at an in-depth understanding of the financial balances and dynamics of entities (Forget, 2005, p. 9).

3. Research Methodology

The research methodology designed for this study, related to the proposed objectives, is based on: preliminary documentation, bibliographic documentation, identification of information from financial and non-financial reports that may be useful in the process, analysis of all information collected, establishing ways to interpret the information obtained and presentation of results.

In order to achieve the research objective, an empirical study was needed on the main processes in the entity, using the dashboard procedure, a study based on the information provided by the accounting model, using the descriptive research method as a research method, as a way of knowing, such as and the preliminary study to obtain information and explanations.

The methodology of using the dashboard focused on techniques and procedures with which some strengths and weaknesses of the financial management of the business were established either to maintain the existing strategies or to substantiate new development strategies of the entity.

4. Procurement Dashboard

In the procurement process, the dashboard is a tool for evaluating the process from the following perspectives: financial perspective, quality perspective and personnel perspective. Table 1 presents such a dashboard:

Table 1. Dashboard of the Procurement Process within a Construction Economic Entity

Axis	Objectives	Indicators	Weigh indicators %	Score achieved	Expected score
0	1	2	3	4	5
The financial perspective	Reduction of raw material costs (construction materials) by 5%	Raw material costs (million lei)	42	5.73	5.66
		Non-compliant procurement costs (million lei)	31	0.29	0.11
		Accuracy of payments to suppliers (%)	17	99.81	99.99
		Inventory (in days)	10	8.00	7.03
The perspective of quality	Greater control over the quality of purchased raw materials (timber)	Reduction of the quantity of timber purchased non-compliant (cubic meters)	25	70.00	68.00
		Procurement and transport infrastructure (number of cars)	25	5.00	6.50
	Improving the timber supply and transport process	Selection of timber suppliers (number of suppliers)	25	11.00	15.00
		Improving the criteria for checking the timber when purchasing it (number of criteria)	25	8.00	11.00
Personnel perspective	Professional development programs	Increasing staff qualification (% of qualified staff)	37	50.00	60.00
		Improving negotiation skills in relation to suppliers	39	54.00	60.00

Axis	Objectives	Indicators	Weigh indicators %	Score achieved	Expected score
0	1	2	3	4	5
		(% qualified person)			
		Increasing the motivation of staff in the supply department (% incentive)	24	5.00	5.00

Source: own processing after Mendoza, C., Zrihen, R., *Le tableau de bord: en V.O. ou en version américaine? Comparaison entre le tableau de bord et le balanced scorecard*, *Revue française de comptabilité* no. 309/1999, page 64 and Popa, V., Topolică, M., *Utilizarea tabloului de bord ca instrument de pilotare a unei organizații parte a lanțului de distribuție/aprovizionare*, *Coromar Conference, Iasi, September 28-29, 2007*, page 360-381 available at https://virgilpopa.com/old/articole/coromar/2_utilizarea_tabloului_de_bord.pdf

5. Dashboard of the Production Process

The production process, for the creation of the Dashboard, takes into account four perspectives: the financial perspective, the quality perspective, the innovation perspective and the personnel perspective. All axes covered in the instrument panel are of equal importance. The dashboard of the production process is presented in Table 2:

Table 2. Dashboard of the Production Process within an Economic Entity in the Field of Construction

Axis	Objectives	Indicators	Weigh indicators %	Score achieved	Expected score
0	1	2	3	4	5
The financial perspective	Reduction of production costs	Costs with raw materials and materials (million lei)	31	6.90	6.70
		Non-compliant production costs (million lei)	16	0.30	0.20
		Salary costs	13	4.80	4.58
		Processing cost (million lei)	40	14.80	14.59
The perspective of quality	Improving the production process in terms of quality	Waste in the production process (% of production validation)	20	0.31	0.10
		Errors in the production process (% of production time)	20	1.88	0.51
		Optimization of manufacturing time (%)	17	99.00	100.00

Axis	Objectives	Indicators	Weights %	Score achieved	Expected score
0	1	2	3	4	5
		Level of wear of production equipment (%)	25	20.00	10.00
		Degree of implementation of quality standards (%)	18	90.00	100.00
The innovation perspective	Design and launch of new products	Number of new products created in the last 5 years	16	6.00	5.00
		Investments in new technologies and equipment (million lei)	40	210.00	220.00
		Work productivity (%)	8	90.00	100.00
		Degree of production automation (%)	36	77.00	82.00
Personnel perspective	Increasing the qualification of production staff	Qualification level of production employees (%)	30	67.00	70.00
		The salary level of employees in the production department compared to other departments	31	61.00	60.00
		Training programs during the last 5 years (no.)	21	5.00	5.00
		Importance of the management team in the production process (%)	18	66.00	70.00

Source: own processing after Mendoza, C., Zrihen, R., *Le tableau de bord: en V.O. ou en version américaine? Comparaison entre le tableau de bord et le balanced scorecard*, *Revue française de comptabilité* no. 309/1999, page 64 and Popa, V., Topolică, M., *Utilizarea tabloului de bord ca instrument de pilotare a unei organizații parte a lanțului de distribuție/aprovizionare*, Coromar Conference, Iasi, September 28-29, 2007, available at https://virgilpopa.com/old/articole/coromar/2_utilizarea_tabloului_de_bord.pdf

6. Delivery Process Dashboard

For the delivery process, the dashboard covers four analysis perspectives: the financial perspective, the quality perspective, the customer perspective and the personnel perspective. The dashboard of the delivery process is presented in Table 3.

Table no. 3. Dashboard of the Delivery Process

Axi s	Objectives	Indicators	Weigh indicato rs %	Score achiev ed	Expecte d score
0	1	2	3	4	5
The financial perspective	Reduction of delivery costs	Delivery, administrative and customer relations costs (million lei)	34	1.90	1.65
		Costs with inventory of finished products for sale (million lei)	17	0.09	0.07
		Customer loyalty costs (million lei)	10	0.20	0.20
		Product promotion costs and discounts (million lei)	20	0.91	0.80
		Salary costs	19	1.10	1.20
The perspective of quality	Improving order management	Non-compliant products delivered (% of sales value)	18	0.90	0.10
		Percentage of dissatisfied customers (% of total customers)	20	3.00	1.00
		Delivery time optimization (%)	12	99.00	100.00
		Level of wear of delivery equipment (%)	30	12.00	10.00
		Level regarding the implementation of quality standards (%)	20	80.00	100.00
Customer perspective	Increasing customer satisfaction	Customer loyalty policy (% level of implementation)	17	73.00	89.00
		Growing the customer market by improving the lead database (%)	38	63.00	80.00
		Level of response to customer requirements (%)	30	83.00	100.00
		Order-delivery cycle (days)	15	33.00	30.00
Personnel perspective	Increasing the qualification of the staff	Level of qualification of employees in the delivery department (%)	29	71.00	87.00
		The salary level of the workers in the delivery department compared to the other departments	28	15.00	15.00
		Training programs during the last 5 years (no.)	25	5.00	5.00
		Importance of the management team in the delivery process (%)	18	67.00	68.00

Source: own processing after Mendoza, C., Zrihen, R., *Le tableau de bord: en V.O. ou en version américaine? Comparaison entre le tableau de bord et le balanced scorecard*, *Revue française de comptabilité* nr.309/1999, p. 64

7. General Dashboard

The structure taken into account for the general dashboard comprises, together with the dashboards analysed on the processes carried out within a construction economic entity, the four perspectives: the financial perspective of the economic entity, the customer perspective of the entity, the personnel perspective and the internal perspective and the quality of the activities carried out and of the products carried out within the economic entity. The general dashboard is presented in Table 4:

Table 4: General Dashboard within a Construction Economic Entity (Mendoza & Zrihen, 1999, p. 64)

Axis	Objectives	Indicators	Weigh indicators %	Score achieved	Expected score
0	1	2	3	4	5
The financial perspective	10% profit increase	Profit rate in total turnover	40	15.00	20.00
		Supply costs (million lei)	10	2.05	1.80
		Increase in sales value (%)	20	28.00	30.00
		Production costs (million lei)	20	0.88	0.80
		Salary costs	10	1.00	1.00
Customer perspective	5% increase in market share	Launch of new products (in the last 5 years)	19	5.00	5.00
		Growing the customer market by improving the database with all potential customers (%)	20	60.00	80.00
		Optimization of the delivery period (%)	11	99.00	100.00
		Level of delivery equipment wear (%)	30	13.00	10.00
		Level regarding the implementation of quality standards (%)	20	80.00	100.00
	Increasing the level of customer satisfaction	Customer loyalty policy (% level of implementation)	18	73.00	80.00
		Growing the customer market by improving the database with all	40	60.00	80.00

Axis	Objectives	Indicators	Weigh indicators %	Score achieved	Expected score
0	1	2	3	4	5
		potential customers (%)			
		Degree of reaction to customer needs (%)	30	80.00	100.00
		Order-delivery cycle (days)	12	29.00	30.00
Personnel perspective	Increasing the qualification level of employees	Staff qualification (%)	30	79.00	90.00
		Improving working conditions (%)	27	15.00	15.00
		Training programs during the last 5 years (no.)	25	5.00	5.00
		Importance of the management team (%)	18	67.00	70.00
The internal perspective	Improving the quality of the products made	Degree of innovation, production automation (%)	38	70.00	80.00
		Implementation of quality standards (%)	29	70.00	100.00
		Investments in new equipment and technologies (million lei)	33	200.00	210.00

Source: own processing after Mendoza, C., Zrihen, R., *Le tableau de bord: en V.O. ou en version américaine? Comparaison entre le tableau de bord et le balanced scorecard*, *Revue française de comptabilité* no. 309/1999, p. 64 and Popa, V., Topolică, M., *Utilizarea tabloului de bord ca instrument de pilotare a unei organizații parte a lanțului de distribuție/aprovizionare*, *Coromar Conference, Iasi, September 28-29, 2007*, pp. 360-381 available at https://virgilpopa.com/old/articole/coromar/2_utilizarea_tabloului_de_bord.pdf

8. Dashboard for Performance Indicators

The balance sheet is the component of the financial statements that reflects the finality from the economic-financial perspective. In most cases, it does not fully cover management requirements, which means that the analysis and interpretation of performance indicators are carried out through the dashboard.

A dashboard of performance indicators is a way to select, order and present indicators, facilitating the rapid identification of a synthesis of the structure at the entity level becoming a tool designed to gather in a concentrated way and synthesize the indispensable information to managers. This allows the situation to be clearly

identified, facilitating a permanent and strong information of the decision makers about the dynamics of the events related to the managed activity and on the way in which the phenomena specific to the managed activities evolve. The dashboard of performance indicators is a system of indicators, in absolute and relative quantities, used for the process of evaluation, control and operational regulation of the entire activity of the economic entity. It sorts, structures, stabilizes and makes available like a synoptic table the most important information components necessary for management to cover in an operational manner, the activity of phenomena, indicators, in accordance with the path outlined by scheduling the activity. Whether it is the case of the narrow dashboard, which contains a small amount of information, or of the complex dashboard, which targets a wide range of information on all investigated activities investigated, it is necessary to ensure a set of requirements at the same time. Compliance with these requirements is a guarantee of the effective use of the scorecard of performance indicators by the management of construction entities.

A balanced dashboard provides a consistent pattern of performance. It also facilitates the implementation of the strategy and allows for a reflection on the relevance of the choice, but sometimes generates ambiguity.

At the same time, it offers responsible decision makers the opportunity to communicate with those led in order to obtain information on the development of economic and financial phenomena, to draw the attention of those responsible to the key points of economic and financial analysis in order to improve results. The use of the dashboard offers the possibility to focus actions on certain aspects, setting for them objectives entrusted to centres of responsibility. Regardless of the accounting model and the strategy regarding the economic-financial analysis, the dashboard of performance indicators is one of the methods that should not be missing from any entity as it will lead to a better functioning from an economic-financial perspective following the adoption of quick and scientifically based decisions.

In the context of the multiple advantages offered by the use of this tool at the level of construction entities, we can mention aspects regarding the amplification of the degree of substantiation of the decisions adopted by providing the decision maker with relevant operational information on the main economic and financial aspects of the entity; reasonable use of working time by directing the activity to the key issues faced by the entity on which the dashboard, through the situations prepared, triggers the "alarm signal"; increasing the responsibility of managers for the activity carried out, the dashboard offering them in a summarized way the aspects and critical areas on which to focus their efforts; creating superior, favourable conditions for a high functionality of the whole entity; ensuring a high quality of reporting to various bodies. The dashboard allows to determine whether the entity's overall performance is aligned with the overall business strategy and highlights the direct link between

business strategy, objectives and performance, which facilitates basic predictions and allows for quick feedback from managers. Defining and implementing dashboards allows for a balanced and integrated view of the entity's performance and the establishment of a performance measurement system that highlights the sources of potential problems. However, the limits of this instrument must not be omitted.

The distinction between *lagging indicators and leading indicators* is often relative, it does not return to the features for each category (result indicators and those of action or operation). Most of the proposed indicators are those of results. *Lagging indicators* will be more about financial performance, and *leading indicators* are related to internal processes and organizational experience. The causal relations between the two categories are far from rigorous (Tabară & Briciu, 2012, p. 238).

Traditional dashboards are focused on financial performance, focusing on defining performance and monitoring indicators EVA (Economic Value Added), ROS (Return of Sale - Profitability), ROE (Return of Equity - Financial Profitability), MVA (Market Value Added) (Kebel & Selmer, 2005, p. 113).

The indicators of a dashboard can be ordered and presented according to a structure presented in Figure 4.

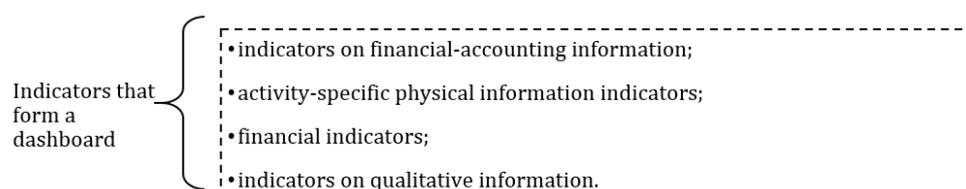


Figure 4. Indicators of a Dashboard

Source: own processing after: Tabară & Briciu, 2012, p. 251)

The performance of the economic-financial information is determined by following some steps presented through a dashboard (Rusu & Bălan, 2008), a process presented in Table 5:

Table 5. The Dashboard of Performance Indicators for the Period 2018-2020 within an Economic Entity in the Field of Construction

Indicator number	Indicator name	Unit of measure	Recommended values	2018	2019	2020
0	1	2	3	4	5	6
1.1	Net profit	lei	growth ratio (> 1)	428,140	511,039	689,924
1.2	Net profit margin	%	growth ratio (between 1 and 15)	8.12	9.85	12.55
1.3.	Asset rate of return	lei/1000	growth ratio (> 1)	139.28	152.30	210.55
1.4	Rate of return on equity	lei/1000	growth ratio (> 1)	286.94	337.88	412.85
1.5	Financial profitability	%	growth ratio (> 1)	24.69	32.28	41.28
1.6	Economic rate of return	%	growth ratio (> 1)	22.75	22.84	35.60
1.7	Return on capital	%	growth ratio (> 1)	48.59	70.69	105.48
2.1	Stock rotation	no. days	decrease ratio (<1)	50.17	24.17	33.64
2.2	Duration of debt recovery	no. days	decrease ratio (<1)	29.55	43.17	30.33
2.3	Debt repayment period	no. days	decrease ratio (<1)	27.94	41.26	31.29
2.4	Rate of return on fixed assets	lei/1000	growth ratio (> 1)	4285.94	3284.35	3737.34
2.5	Effective rate of current assets	lei/1000	growth ratio (> 1)	95.04	137.56	99.10
3.1	Patrimonial solvency	%	> 30	57.43	49.11	58.90
3.2	Immediate liquidity	point	close to 1	0.93	0.92	0.94

Source: own processing after article by Rusu, C., Bălan, S., *Congresul profesiei contabile din România "Profesia contabilă între reglementare și interesul public"*, Indicatori de performanță ai întreprinderilor mici și mijlocii, CECCAR Publishing House, Bucharest 2008, p. 473)

Both in the narrow form of the dashboard, in which the specific information is in a small volume, and in the complex form are included many elements and aspects related to structure, strategy, production, this tool is required to cover a diverse range of features (Cucui & Man, 2004, p. 269) according to Figure 5.

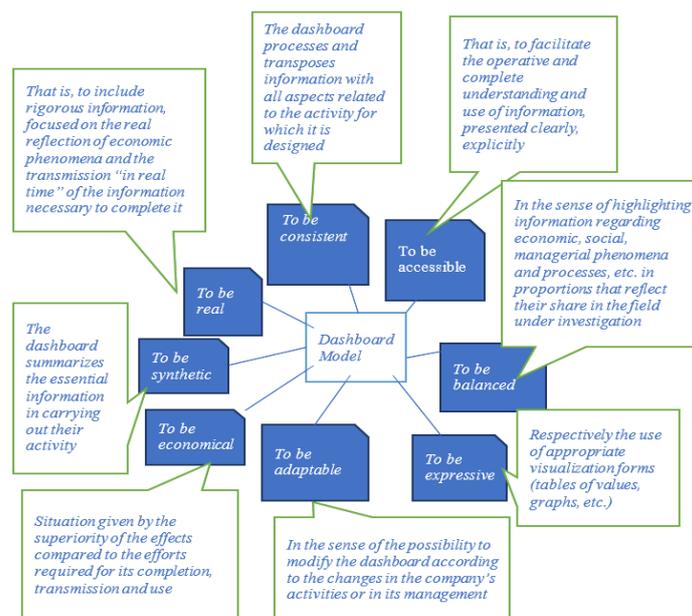


Figure 5. Specific features of the Dashboard Model

Source: own processing after Cucui & Man, 2004, p. 269

The established mission must in fact be the objective of the establishment and operation of any economic entity. The orientation towards the accomplishment of the mission at the level of the entity operating in the field of constructions must start from the conception that the performance is not reached regardless of the level of costs, but progressively, in a long time, correlated with the level of human and material resources, so as to cause solid, sustainable and valuable results for the next period (Bărbulescu, 2000, p. 102).

The dashboard, seen as a means of management action, helps to highlight the mission at the level of a construction entity through the person responsible for this issue (Cucui, 2004, p. 283). In Figure 6 presents the advantages and disadvantages of the Dashboard analysis tool.

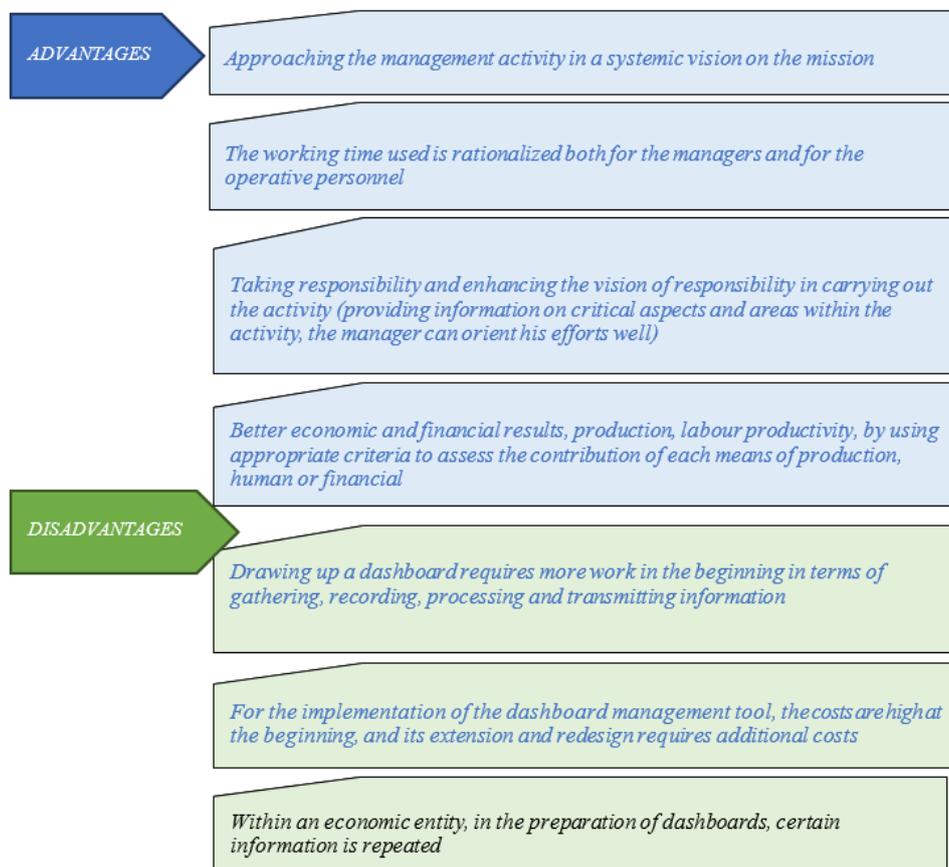


Figure 6. Advantages and Disadvantages of the Dashboard Tool

Source: own processing after Verboncu, I., *Tabloul de bord: teorie, metodologie, aplicatie*, Tehnica Publishing House, Bucharest 2001, p. 99

9. Conclusions

Through its structure, the **Dashboard** contains minimal information, is a symmetrical presentation tool and generally contains numbers or graphs without detailed explanations. It is absolutely necessary that the information presented in the Dashboard refers only to the area on which the person in charge can act, to be easily understood, analysed and used as soon as possible. This information is systematically brought to the attention of the Dashboard user and mainly relates to streamlining the activities of the entity.

The implementation of dashboards means taking into account the strategic objectives of the entity that guides the management of processes or centres of responsibility.

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