

Balanced scorecard performance assessment in a medical imaging department

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Aims and objectives

- Develop a strategic management model based on the *Balanced Scorecard* by Kaplan and Norton to implement in an imaging ward.

Methods and materials

- Development of a Performance Measurement System that allows for the monitoring of the service's evolution, the alignment of objectives, and the evaluation of individual employees within the strategy of the ward and the hospital.
- The structure of the Strategic Map for the ward along with the strategy of the Hospital is the key document for the definition of objectives, initiatives, targets, weights and tolerances, and was indispensable to the construction of the "Cockpit" of Indicators for the Performance measurement.

The imaging service has a total of 57 employees, of whom 40 were interviewed, with the sample selected representing 70%.

The organic structure of the service is composed of the Technical Assistants, the Operational Assistants, the Radiology Technicians, the Radiologists, the Coordinating Technician and the Service Director.

The overall production of the radiology service, between 2014 and 2015, increased by 14.40%.

Strategic Decision: Election of Strategic Vectors

The analysis of the SWOT matrix allowed the identification of several alternative Strategic Vectors, among which were compared and evaluated:

- (A) BSC and performance evaluation
- B) Innovation
- C) Management and information system

D) Motivation and professional development

E) Efficiency and the financial balance of the

(F) Focusing (centering on users)

From the assessment carried out, it is concluded that the structuring of the strategy should be given preference through the assumption of the most scaled-up vectors, namely BSC and performance evaluation (375 points), innovation (368 points) and management and Information (316 points). These will be the guiding vectors of the BSC's strategic map.

Phase 1 - The purpose of this phase was to get to know the HF, EPE, the Radiology Department, to guarantee access to information and the participation of the interlocutors indispensable to the implementation of the social work plan.

Phase 2 - At this stage, we sought to identify and evaluate the critical success factors that characterize the internal and external environment of the service. For this purpose, empirical work was carried out, which consisted of collecting primary data from the heads, professional sectors and users of the service, in their treatment and compilation of results.

Phase 3 - In the face of the diagnosis, we tried to cross the internal and external environment in order to formulate alternative strategic initiatives that enhance opportunities and mitigate threats. Through an attentive analysis of the multiple strategic initiatives identified, we were able to extract alternative strategic vectors.

Phase 4 - At the stage of the identified alternative strategic vectors, a comparative analysis and corresponding evaluation were carried out.

Phase 5 - In this phase the strategic map was drawn up in all its extension, namely selection of perspectives, vectors, objectives, cause and effect relationships, indicators, initiatives, goals, tolerances, weights and tokens (for the objectives and initiatives).

Images for this section:

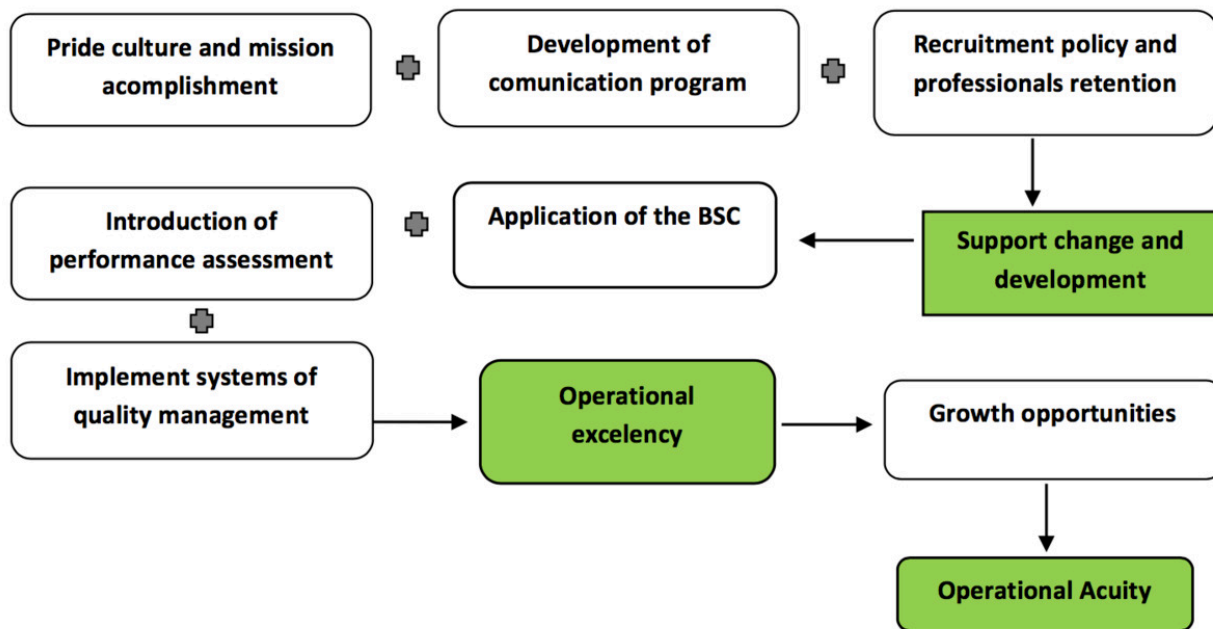


Fig. 1: Strategic vector - BSC and performance assessment

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Results

- The balanced scorecard system has some advantages to other management systems as it allows to measure performance and efficiency as well as the degree of accomplishment of the wards objectives.
- When applied to the imaging ward of a public hospital the target for the achievement of strategic action was to hold at least 85% of maintenance provided for in plan, but the actually carried out maintenance were up 76.5% of the plan provided. This performance lies in the tolerance range.

Strategic Vectors

Once the Strategic Vectors have been defined, it is important to integrate them in a coherent way in the Strategic Map of the service in compliance with the strategic perspectives adopted, innovation and learning, processes, financial and clients.

Innovation

It is believed that betting on internal research or in partnership with other radiology services and higher education institutions, will enable the assimilation by the service staff of new knowledge and techniques, which will constitute the technological base (implement technology) to support the Present and future research priorities arising from the needs of the service. The alignment of these priorities will provide the service with the technological priorities to be endowed (hardware and software), to carry out high value-added tests and to optimize the installed capacity, in order to provide a full range of services, including those technologically More evolved.

BSC and Performance Evaluation

The implementation of the BSC and the introduction of the Performance Assessment of the organization, the professional sectors and the employees requires a great co-responsibility of all. In this sense, it is essential to establish a climate of pride in the service and commitment to the mission, to develop a communication plan and to initiate a policy of recruiting, promoting and retaining the best professionals coherent and unambiguous, resistant to criticism, The fear and the demotivation that often takes place in the course of the implementation process. A climate of acceptance, co-responsibility and promotion of change is the ideal substrate for: a) the application of BSC in its various levels of unfolding; B) the introduction of performance evaluation; C) implement quality systems for certification. It is expected that these actions will lead to an operational excellence that will translate into service growth opportunities, enhancing the diagnostic acuity.

Images for this section:

Type	Objective/ Indicator	Unit	Sign	Goal	Tol.	Weight	Performance	Perform. Develop
Processes	A – Shortest time of: Schedule, executivo					0,13	62,40	→ -0,01
	A – Number of maintenances / nº of scheduled maintenance	%	>	85	8,5	0,50	76,50	→ -0,10

Fig. 2: Action indicator - "no. Of maintenance performed / no. Of planned maintenance" was as a result of the last measurement.

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Type	Objective/ Indicator	Unit	Sign	Goal	Tol.	Weight	Performance	Perform. Develop
Processes	A – Shortest time of: Schedule, executivo					0,13	61,83	→ -0,01
	A – Number of maintenances / nº of scheduled maintenance	%	>	85	8,5	0,50	75,00	↓ -0,12

Fig. 3: Action indicator - "no. Of maintenance performed / no. Of planned maintenance" was as a result of the last measurement. -0.12 means that the last measurement of the indicator was 12% Below the threshold set for the target.

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Type	Objective/ Indicator	Unit	Sign	Goal	Tol.	Weight	Performance	Perform. Develop
Processes	A – Shortest time of: Schedule, executivo					0,13	39,33	↓ -0,28
	A – Number of maintenances / nº of scheduled maintenance	%	>	85	8,5	0,50	15,00	↓ -0,82

Fig. 4: Action indicator - "no. Of maintenance performed / no. Of planned maintenance" was as a result of the last measurement. Last measure - 15% indicator would be 82%

below target, and the degree of default would be such that the target would leave the zone of tolerance and would itself default.

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Type	Objective/ Indicator	Unit	Sign	Goal	Tol.	Weight	Performance	Perform. Develop
Processes	A – Shortest time of: Schedule, executivo					0,13	71,21	↑ 0,10
	A – Number of maintenances / nº of scheduled maintenance	%	>	85	8,5	0,50	100,00	↑ 0,18

Fig. 5: Action indicator - "no. Of maintenance performed / no. Of planned maintenance" was as a result of the last measurement. Indicator quotation - 100% indicator performance - 18% above the target goal entered the compliance region.

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Type	Objective/ Indicator	Unit	Sign	Goal	Tol	Weight	Performance	Perform. Develop
Service	R – Raise patient satisfaction and perceived value by the community					1,00	9,31	↑ 0,20
	A – Raise patient satisfaction and perceived value by the community					1,00	36,20	↓ -0,25

Fig. 6: Global performance indicator. Indicator quotation - 100% indicator performance - 18% above the target goal entered the compliance region

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Conclusion

- In the area of Health Management, as in other areas of management, the use of Quantitative Performance Evaluation Systems are a trend.
- Enable on the one hand the evaluation of the achieved performance (performance indicators or effectiveness); On the other, the degree of implementation of the defined strategy (action, strategy execution or efficiency indicators).
- The development of these systems requires the continued support of hospital administrations and the involvement of stakeholders.
- To capture vital aspects of organizational performance or individual performance, the service must use the BSC to develop a battery of indicators aligned with the strategy.
- These indicators should be easily accessible, timely availability, comparable in time and enable the construction of a control cockpit for effective monitoring.
- To promote a culture of continuous improvement, performance indicators should be benchmarked, both internally with historical data and externally with the best sectoral practices identified.
- Performance indicators provide a common denominator for the ward and allow for comparisons between different wards over time. To improve strategic performance, the quality of service and their processes accordingly, these indicators should be compared with the best practices in the sector.

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