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Governing the Hospital Information System

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From the centralised IT systems approach of the 1980s to the information system approach of the 2000s, the fundamental evolution which took place in the health establishments is a change of paradigm. From information technology positioned vertically in the organogram of the enterprise, to an information system aligned horizontally, meaning throughout the course of the integrated care of the patient for example, the Information System Managers (ISM) must fix three fundamental principles: to establish a coherent development plan and to integrate it into the vision of the enterprise, to pilot it, and to evaluate it in the quality sense of the term.

More concretely, under the pressure of new regulations requiring a change from a global budget to activity-based billing, the hospital information system is faced with two upheavals: management by invoicing, which requires a re-definition of the entire patient care process from admission to billing, then to find a decision-making tool suitable for integrating and manipulating all of the relevant data of the establishment and the Electronic Health Record (<http://www.d-m-p.org>).

Organisation of the Information System

Firstly, to ensure the optimal integration of the ISM, begin by defining the scope of action, which is in itself a function of the range of tasks which it manages:

They will be referred to as *Information System Managers (ISM)*, if they cover 'all of the material, logistical, organisational, and humans means in order to acquire, store, diffuse or destroy information', but they will only be *IT Managers (ITM)* if they cover 'all or part of an information system dealing with the automatic processing of information'.

So, to enumerate, and without being exhaustive, five functional hypotheses are possible:

Hypothesis 1: The ISM belong to a 'services' area along with technical, biomedical and logistical services.

Hypothesis 2: The ISM belong to the 'activities/finances' area along with admissions, billing, the DIM (Desktop Information Managers), even management control.

Hypothesis 3: The ISM belong to a 'tranverse' area along with quality and risks. It is necessary to position the ISM as an entity which does not deliver means, but which evaluates the pertinence and efficiency of electronic information delivered.

Hypothesis 4: The ISM belong to a 'strategic' area depending directly on the general management. This hypothesis emphasises the fact that there are no IT projects, there are only enterprise projects.

Hypothesis 5: The ISM constitute in themselves 'an information system area' supplemented by the same other attributes: telecommunications, the IS organisation (the O of ISMO) and other competencies required for project management.

Objectives

Next, the other point, also as important, is to clearly fix the objectives of 'good IS governance' and the tools necessary to measure its level of success. Luckily, here there is a form of consensus where the recommendations of knowledgeable IT societies match those of the healthcare authority ('Haute Autorité de Santé', HAS) To the three points recommended by the HAS, which are:

1. *The politics of IS* (in regard to the patient record and to respect the project of the establishment);
2. *Managing information* (including identification, capturing, availability and above all security and traceability);
3. *The evaluation of the information system* (in terms of satisfaction surveys, measures, tables, ...)

Four other fundamental points have been added which are:

1. Project Management

Without going into the methodology here, it is necessary to define the players and the roles:

1. The general management (GM), executive council (EC), and medical commission of the establishment (CME) are responsible for strategic project management (PM).
2. The 'specialties' team is responsible for operational PM.
3. The ISM and DIM (desktop information managers) are responsible for strategic implementation.
4. The ISM, editors, and integrators are responsible for operational implementation.

Under the mediating role of the information system strategic commission, an internal commission in the establishment representative in terms of players (ISM, DIM, doctors, carers...) and in charge of overseeing the implementation of the guiding plan.

2. Performance Measurement

It is consistent excellence which makes a winner.

Indicators, a performance management tool, must be, amongst other things:

- fi Sound, in making a report, generating a corrective or anticipatory action;
- fi Adaptable to the domain of activity, to the audience (who will be the recipients and the judge) and, above all, to the changing environment;
- fi Hierarchical, meaning readable enough to immediately distinguish the important from the futile;
- fi Evolutive, in the sense of adaptability, and impermeability to minor transformations of the information system.

The performance is also a parameter which must be adjusted in function of:

- fi the uncertainties of the life of the enterprise, the regulatory requirements or strategic decisions;
- fi the level of available resources, taking care that an indicator does not represent the activity of an individual, but rather a group responsible for a pre-defined task.
- fi the satisfaction of the involved parties (the agents, the patients, the authorities).

3. The Management of Risks

The IT risk (or at least the risk engendered by the information system) in a hospital must be laid out in an overall plan in which the ISM are involved. For the sensitive areas of this domain (integrity of information, robustness of the network,...) but also more generally within the framework of the other hospital processes.

4. Value Creation for the Enterprise

What do we mean? Firstly of an opinion on a service (or a product), an opinion proportional to the satisfaction of the 'client' and inversely proportional to the cost.

Then, of a measure of the improvement made (or not) by the information system.

The formula according to which 'technology alone does not enhance the value of the information system, it is the use of that technology which gives it value' does not match the general guideline that it is necessary to enhance the indicators, not just technological, but towards the global strategy of the hospital.

An approach of the type value management with a transversal objective is most appropriate, value is a subjective perception, multidimensional (metrics alone cannot measure it), risky because of the expected benefits, and shifting because it evolves in function of internal and external parameters which must be known, or better still, mastered, to avoid 'natural entropy'.

Amongst the many indicators elaborated by the Anglo-Saxons, only the two principal ones will be cited here: TCO (Total Cost of Ownership) and ROI (Return On Investment).

There is abundant literature on these tools, both in terms of methodology and best practices (Cobit, Itil, ...) as well as in terms of performance indicators and quality.

Conclusion

A new and multipartite dynamism will be brought to light in relation to the ISM, based on the following statement: as no one person has the knowledge or means necessary to solve problems alone, consultation has become necessary in an environment where authorities no longer have the monopoly on responsibility.

The strategic and operational converge for the benefit of the hospital and its information system. The path of progress is remarkable as a clearly defined policy of change is also a medium of success.

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