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### Innovation Management in Healthcare IT

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#### Author

**Miroslav Madjaric,**

*is Chief Information Officer and Advisor to the CEO at*

*University Hospital Centre, Zagreb*

**Innovation is, without doubt, one of the central challenges faced both by healthcare IT professionals, and senior management. Its benefits are often, but not always, clear – depending on the yardsticks chosen to measure them. In addition, the pathways to innovation are rarely straightforward. Innovation is both art and science. One instantly recognises a ‘good’ innovation. But how does one qualify those that are ‘less good’, but which might be made better ?**

**Last but by no means least is the question of cost – both direct costs and opportunity costs. And yet, as we shall see, innovation can be a question of survival, even in healthcare. It cannot be brushed aside.**

#### Structuring the Process of Managing Innovation in Healthcare IT

In order to provide a schematic structure, we might start by conceptualising the pyramid which underlines the issue of this voluminous and complex area. Each and every out of these four complex notions has its own essence and its own dynamics. Their mutual interconnectivities are however key to understanding what innovation management in healthcare IT is about. The classic engineering approach is to thus cut the content into pieces, aimed at providing both an overview and insights and facilitating understanding.

1. IT
2. Innovation
3. Management
4. Healthcare

Of outmost importance is to understand, that we are not dealing here with innovation itself: We are dealing with IM (Innovation Management), i.e. with the methods, processes and organisation, how to foster innovation activity in healthcare organisation.

In addition, we are focused on IM in healthcare IT. Bare in mind that IT in healthcare can be helpful in IM, but also vice versa: Every IT project is in innovation in healthcare, thus has to be managed properly!

#### Objectives of an Innovation-Friendly Culture

For healthcare IT management, some of the objectives of building an innovation-inspirational culture would be as follows (applicable in every organisation):

- To identify innovation opportunities in their organisations (green-field or improvement);
- To evaluate benefit pools (the profit portfolio) of innovations;
- To communicate effectively the innovation potential of specific projects (buy-in), especially aimed at sustainable growth – and more innovation;
- To organize effective innovation processes, mainly in terms of improving the business culture and efficiency of an organisation;
- To provide talent leadership by informing, coaching and motivating people to harness their best capabilities;
- To develop a clear, collaborative and integrated operating innovation management model, and

To 'infect' other people in the organisation with their innovation vision and commitment.

#### **Whats, Hows, Whos, Whens, Wheres, Whys, and How Much?**

Before delving further, it may be a good idea to summarise seven fundamental questions related to innovation management:

#### **What is Innovation?**

Keywords: New, useful, idea, improvement, creating, final value, new/better ways, novel, change, introduce, commercialisation, R&D, conversion, diffusion, application, beneficial ...

#### **How to Innovate?**

The process of innovation essentially marries an element of structure and discipline with simple rules. Management guru Peter Drucker puts it concisely: "Innovation is not a seizure of geniality, but merely a discipline, with its own, fairly simple rules. Just as entrepreneurship is!". Contemporary innovation guru Guy Kawasaki labels this topic as: "Art of Innovation" (look for his lecture on YouTube!).

#### **Who Innovates?**

Everyone in the organisation (from the Chief Executive Officer through the IT manager to the nurse – all the way to the cleaning lady). The litmus test of innovation culture is indeed how motivated everyone is to innovate – (as mentioned above), to bring about improvements to the working of an organisation – in ways both big and small.

#### **When to Innovate?**

Literally, all the time. "Before it is too late"! This of course collides with another common sense maxim – that employees should not neglect their everyday responsibilities while they are preoccupied with innovation. However, the typical attitude of a boss "You are here to work and I am here to think!" can ruin an organisation. The means to fight such inertia are as follows:

Planning innovations as an integral part of making out a business plan;

Benchmarking, and

Fostering a strategic innovation-friendly culture

#### **Where to Innovate?**

Again, everywhere in an organisation. "Innovation ghettos" destroy innovation, kill the spirit. This is because of the very nature of the ghetto mindset: Innovation is for us. Outsiders are not welcome.

#### **Why to Innovate?**

To survive! Whether companies or institutions, all organisations which ignore such a question do so at a great cost.

#### **How much the Innovation Cost?**

This is, of course, literally, the million dollar question. It involves issues of costs, of making clear and transparent business cases. Innovators have to be encouraged to demonstrate the business- case elements in their approach, or, if this is not possible, at least have a feel for it; in other words, an innovative cleaning lady should not be discouraged in her drive for innovation by asking to demonstrate a rigorous business case.

#### **What is Innovation?**

There are literally hundreds of definitions. On [www.thinksmart.com](http://www.thinksmart.com) alone, there are no fewer than 22. One of the most succinct, according to this author, is that "innovation is every intentional novelty bringing sustainable advantage to an organisation." In healthcare IT it can be, e.g: Integrating drugs prescription in hospital with Internet portals for drugs interactions.

#### **How to Innovate?**

The above question was (and in this author's belief, remains) best answered by Peter Drucker. With his usual perspicacity, he stated that the key to successful innovation management is to combine discipline with a set of 10 simple rules.

Interestingly, among 1.5 million documents on the Internet related to innovation management or innovation leadership, it was not possible to find many applicable "cookbooks" about how to manage innovation in an organisation. There is a riptide of definitions, principles and characteristics, but nothing much on concrete process and workflow, which innovation management activities require to be performed and how they are interconnected. Understandably, successful organisations are reluctant to disclose their "innovation backoffice". They just market their "innovation credos" and pertinent achievements.

### **Who Innovates?**

Literally, everyone in an organisation, from the Hospital General Manager (i.e. CEO) to the cleaning lady! At first sight, this may seem to be in opposition to Peter Drucker's statement about hard work and discipline combined with simple rules.

The truth is, however, different. Innovation and innovation management itself need both effort, and rules.

The first rule is that every member of the organisation has to have his/her role defined within the innovation process:

... beginning with strategy, and ending in looking for everyday opportunities.

Closely associated with the above is participation in the innovation process, which is composed of a large number of single discrete activities, and where different members of a healthcare organisation have very different roles. For instance, it is not to be expected that a hospital CEO thinks about detailed opportunities in production, sales or a back-office operation. On the contrary, a summer intern will surely not be a substantial contributor to the key segments of defining or executing innovation strategy.

In other words, the primary goal of fostering an innovationfriendly culture is to clearly state and communicate roles and responsibilities in the innovation process, for each and every member of the healthcare organisation.

To sum up, as far as the question about 'who innovates' is concerned – the answer is "each and every member of the organisation" – but according to his/her role in the innovation process.

### **When to Innovate?**

Innovation is a permanent process, which must be central to the business-cultural dynamics of a healthcare organisation. Indeed, postponing decisions to innovate (or at the management level, to generate strategic/systemic support for the innovation process) is an all-too-common excuse.

The forces of darkness, which resist innovation, are stronger, subtler and often more insidious than most people imagine! They tend to prevent any changes, the use of new or simply different methods. Their simple mantra is: "Not invented here!". Of course, many such resisters are secretive. They seem to be in favour of change and pay whatever lip service is required to show that they support innovation. However, in reality, they find every possible excuse to stall every initiative for change – while it is in the gestation process, or put spokes in the wheels of an ongoing innovation process.

One of the most frequent and widespread methods for such rearguard actions is to find arguments to postpone a part of the innovation process. Given the organic, cross-synergistic and often-invisible nature of the latter – at least as far as the 'process' is concerned – this serves to strangle the innovation infant in its cradle.

There are several indicators of such stratagems: It is hardly rare, for example, to hear statements such as the ones below:

"This is perfect idea for back-office efficiency boosting, but our focus is now on company growth by merging, aimed at increasing market share!"

"Your innovation proposal is promising, but can't be approved now, because our actual financial situation doesn't allow the level of investment proposed!"

"We can file this idea on our future improvement list, which will be evaluated in detail during preparation of our next Five Year Business Plan!"

How do innovators and supporters of innovation fight against the kind of excuses above? Luckily, there are some guidelines.

#### **1. Active Defence**

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: Innovation should be an integral part of all Business Plans. Its performance should be subject to quarterly evaluations, too, long the lines of what healthcare managers use for other areas of their business. In addition, innovation should be subject to similar metrics, such as the number of innovations accepted, the innovation budget, innovation performance etc. Along with evaluation on a quarterly basis, such an approach would represent a forceful and evidence-based counter- attack against innovation blocking.

It would also carry its own momentum. For example, an Innovation Manager can simply say: "We made a plan to have a 10% increase in innovations and a 20% supplement for our innovation budget, as compared to the previous year". Under such a scenario, (subtle or overt) actions to block innovations would come to a stop and yield instead to the beginning of a discussion on priorities and portfolios.

## 2. Benchmarking

is another leverageable tool. An Innovation Manager could, for example, emphasise: "Our business intelligence says that our competition is well ahead with innovations, as compared to us," and quantify its business impact. This should ideally be done on a medium-term basis: Shortterm scenarios put too much pressure on evidence collection, while longer-term goals are rarely an antidote against day-today pressures to kill innovation.

3. Lastly, simple '**airline magazine**' statements can help: "Make changes before you must do it!"

In brief, a simple answer to the question 'When to innovate?' is as follows: "Not tomorrow, start now. A pity that we have not achieved it yesterday."

## Where to Innovate?

As mentioned previously, "innovation ghettos" kill the creative spirit. They confine the mandate for an area as freewheeling and borderless as innovation, and thereby serve to keep out the creativity of 'outsiders'.

Key principles, therefore, are as follows:

There is no monopoly on innovation;

Innovation is for everyone, not just R&D,

ICT or even marketing, and

Even back-office functions are prone to innovation.

The labelling of only a few departments or divisions as 'innovative', in turn, has two serious shortcomings:

Other units work forever "as usual", and "Innovative departments" have no proper innovation management, innovation becomes their routine.

The remaining question on innovation is about its sources. The main elements here can be classified as follows:

Internal: Rotating within an organisation;

External - health: Through business intelligence, regulatory and technology trends;

External - other industries: Find the process outside health industry applicable to the hospital! E.g.:

Henry Ford invented assembly belt after visiting slaughter house, and

Patients: Complaints and suggestions.

## Why Innovate?

An organisation should take advantage of the inherent creativity of its employees aimed to boost effectiveness and efficiency. This is a self-perpetuating cycle. The creativity and motivation of the employees will also get dampened, in parallel.

A failure to innovate is not just a question of success. Given the pace of development in technology, it is also a question of survival.

The threat consists both of the unforgiving forces of a market, and secondly in equally-unforgiving governments, treasuries and healthcare policy  
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managers thus valid for healthcare providers on the market or publicly owned.

### **The Cost of Innovation**

Innovators have to be encouraged to demonstrate the business- case elements in their approach. One dilemma which is often encountered is how much to invest in an innovation, and thus avoid two kinds of errors:

**Error Type I:** accept an innovation where the bottom line will be red, or

**Error Type II:** reject an innovation which would bring a positive net effect if it had been accepted.

A rule of thumb under such circumstances is that experiments, prototypes and pilots are welcome and, if feasible, should demonstrate innovation viability and sustainability, thus reducing business risks to a reasonable level. Nevertheless, here too lies a double sided coin:

Innovation has the potential to bring advantage for the company, but it costs 'some' money or other resources to be implemented. Within a strong innovation management process, activities related to this issue could be defined as follows: Assessment, risk, business cases, budgeting, portfolio management, innovation effects measurement.

These can help make a case for justifying the costs of innovation. However, innovators and the CFO will inevitably stay at opposite ends of the spectrum. Decision makers, in turn, will always be in trouble, fearing the two possible errors they can make – mentioned above (to accept an innovation with a red bottom line or reject an innovation which would yield positive results had it been accepted). This seeming Mission Impossible is, in reality, even worse. To the two types of errors listed above, we can add yet another.

**Error Type III:** Accept an innovation, but restrict its budget, resulting in poor effects, and then landing in negative territory as far as the bottom line is concerned. Had the full budget request been approved, the net outcome could have been positive, in spite of the higher investment entailed.

Example: Hospital innovates putting its procedures in video form on YouTube. There are 100 such procedures, one 5 minute video should cost 10.000 euros. CFO says: Oh, too much, I made bargain with local Film Academia for 200.000 euros in total, saving 800.000 euros! Amateur videos were produced, there was no public acceptance of this innovation, it ended in red!

In reality, there is no golden rule, just rules of thumb, experience, and in some cases, imagination and a willingness to take reasonable risks. This, as we have seen, is in any case, integral to an innovation-friendly organisation.

### **Classifying Innovation**

Given below is this author's view of how innovations can be classified:

#### **Categorisation of Innovations**

##### **Grasp**

: Some old thing (already in existence), which we have, but do not yet use. E.g: Pivot table in MS-Excel, Service Desk for FM, Task Management for working time recording.

##### **External**

: We have seen or otherwise obtained information from elsewhere about some thing that fits an opportunity; e.g. telemedicine for islands in Croatian Adriatic sea.

##### **Correction**

: If there is a problem with equipment or a process, there is an opportunity to fix it, such as shortcomings in software which consumes unnecessary time or generates errors. Try to "sell" this innovation to the manufacturer, like Cleveland Clinic does it within their Innovation Center!

##### **Perefection**

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: If everything works well, but there is a better way (based on some changes, this kind of innovation could be called 'opportunity-driven improvement'.) Here we are answering the question HOW? (efficiency).

### **Invention**

: This is the highest level of innovation. If we discover something completely new, it should be considered as an invention and be protected for the benefit of an organisation, and provide rewards to the innovator( s), to continue innovating – and inventing. Here we are answering the question WHAT? (effectiveness).

### Levels of innovations

1. Useful idea.
2. Process efficiency improvement.
3. Technical advance.
4. Industrial design.
5. Discovery/Invention.

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