OVERTURES TO REDUCING ROMANIAN MINISTRY OF NATIONAL DEFENSE TENUITY IN INFORMATION RESOURCE MANAGEMENT

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Information is not knowledge,
Knowledge is not wisdom,
Wisdom is not truth,
Truth is not beauty,
Beauty is not love,
Love is not music,
And music is the best.
Frank Zappa, "Packard Goose"

Information Resources Management (IRM) means planning, budgeting, organizing, directing, training and controlling information. It encompasses both information itself and related resources such as personnel, equipment, funds and technology. For many organizations, information and the technology that supports it represent their most valuable, but often least understood assets. The Romanian Ministry of National Defense (MoND) has to face this fragile issue, too. Hence an analysis of the AS IS situation is more than necessary if future endeavors in the field are to succeed. Moreover, the identification of possible solutions and of their likely constraints is another aim of this article.

Key words: *information resources management, performance measurement, balanced scorecard, planning, programming, budgeting, controlling.*

1. OVERVIEW OF CURRENT STATE OF IRM WITHIN THE ROMANIAN MOND

The situation of information resources management within the Romanian MoND presents a set of features that are more or less related to the overlap in understanding the concept of IRM. Thus, except relatively sufficient regulation in information security, there is a huge need to establish the legal framework for the management of information, not only of information technology and communications (IT&C).

The *Government Decision no.1366/1990* (later changed through Government Decision nr. 233/2004) [1] establishes the attributions and responsibilities for the "informatization" of the Romanian society. The act legally enforces IT development using strategies. In this respect, all governmental organizations should have a directing project for contributing to an information based society. Inherently, the MoND issued internal regulations. However, establishing information management strategies and applying them at lower levels of execution still proves a conundrum. In the case of the very few situations when planning proved adequate and in line with the requirements of the

act, budgeting for the plans raised serious difficulties. Additionally, the previously mentioned Government Decision was abrogated in 2004.

On top of the above issues, despite efforts in acquiring infrastructure and IT&C services for the Romanian armed forces, a great number of limitations surface:

1. The private communication **infrastructure is undersized** and hardly sustains operational requirements, there are only limited information transport capabilities, and the existing systems' mobility is reduced.
2. There are numerous **redundancies and duplications** because of a **stove piped system architecture** restricting the flow of information within the organization;
3. Even though projects are undertaken with the intention to integrate most of the local applications, they actually lack an ERM system approach that would most likely be a more effective manner of approaching the issue;
4. The **existing capabilities** do not adequately meet the changes in **mission, policy and doctrine** which leads either to the partial use of some systems or to the abandonment of others;
5. Even when the phrase *"integrated systems"* is referred to, they do not actually work together as they are meant to;
6. The need to find a solution similar to the one developed by the US is already a requirement on behalf of the users, namely "a typical desktop set-up, available to all Defense sites, is a single screen connected to a wireless network that can display multiple security "sessions".

In addition, even if there are some methodologies for management, planning and performance evaluation, de facto **MoND is evaluated** by external authorities (as stakeholders' representatives) using **efficiency criteria related to financial resources and risk management.** This pure financial approach for managing organizations suffers from two drawbacks:

- It is **historical**. Whilst it tells what has happened to the organization, it may not tell what is currently happening. Nor it is a good indicator of future performance.
- It is too **low**. The added value resulting from intangible assets is not measured by normal financial reporting.

2. POSSIBLE COURSES OF ACTION

"Progress, far from consisting in change, depends on retentiveness. When change is absolute there remains no being to improve and no direction is set for possible improvement: and when experience is not retained, as among savages, infancy is perpetual. Those who cannot remember the past are condemned to repeat it."[2]

The intention of this paper is not pointing a finger at particular causes that determined the current situation, or to appreciate its severity.

In my opinion changes should address fundamentals of the MoND management. I will not explicitly mention issues linked to human resources but they are intrinsic whenever information and management arise. Obviously, one of the most important elements in IRM is people, either as simple actors or managers. Consequently, measure to determine the success or failure.

2.1. Reviewing MoND Enterprise Architecture

The concept of Enterprise Architecture [EA] focuses at the core on how organizations are engineered. Within this context a number of possible ways in which to use the term are prevalent:

1. EA as a philosophy - the enterprise approaches its design and re-engineering in a systematic and structured way,

2. EA as a practice - noun: in order to define, structure and make explicit our engineered enterprise, we establish a practice that uses formal methods and frameworks to do so (e.g. Zachman, TOGAF),

3. EA as a capability - the people, skill, process and technology exists and delivers defined services,

4. EA as an instantiation - The enterprise we see is the instantiation is the reality.

Every enterprise has an architecture, some explicit and some not. Some come to being by accident, but many are formally designed.

In 1987, John Zachman [3] wrote: *"To keep the business from disintegrating, the concept of an information systems architecture is becoming less of an option and more of a necessity."*

From that moment on, the Enterprise Architecture Framework of Zachman evolved. It became the model around which many major organizations are viewing and communicating their enterprise information infrastructure. It provides a blueprint, or architecture, for the organization's current and future information infrastructure. The Zachman EA at that time presented a new model for viewing and communicating information infrastructures. Instead of looking at the process as a series of steps, he organized it around the points of view (perspectives) taken by the various players.

Players in the EA framework are:

1. someone who has undertaken to do business in a particular industry,

2. business people who run the organization, systems analyst who wants to represent the business in a disciplined form,

3. a designer who applies specific technologies to solve the problems of the business,

4. system builder,

5. the system itself.

The perspectives or points of view are represented as rows in a matrix.

Zachman acknowledged that each of the participants was looking at the same categories of information, represented in the columns of the framework.

In this respect, the Information Categories in the Enterprise Architecture framework are:

- The data manipulated by an organization **(WHAT)**.
- Its functions and processes **(HOW)**.
- Locations where business is conducted **(WHERE)**.
- Events that trigger business activities **(WHEN)**.
- People and organizations involved **(WHO)**.
- Motivations and constraints which determine how the business behaves **(WHY)**.

After identifying key entities/areas and outcomes the big challenge is be to find the process or methodology to get the implementation in place in a simplified and traceable manner - keeping standards and practical feasibility in sight.

2.1.1. Output and Benefits of Enterprise Architecture (EA) for MoND

A legitimate question may arise in connection with this topic: what benefits will MoND gain?

Proper EA will give structured information of MoND organizational resources, providing all information in a single framework which will help regarding future investment and decision making.

Most areas within MoND either do not understand the value of EA or have different perceptions of it, as dictated by their influences and needs. This need not be the case.

A useful analogy in this regard is a comparison to city planning. In city planning, a city planner focuses on the city's infrastructure while city management centers its thinking on

issues that affect the "quality of life" of its citizens and the ultimate goals of the city itself. Similarly, the enterprise architect, like the city planner, focuses on the provision of the technology environment that enables the MoND transformation – which is the main concern of the stakeholders.

Clearandtransparentidentification of authoritative data sources will be another benefit. There is an essential need for enforcement through regulation as well as execution of where those authoritative data sources are, standardizes on that data, and move out. If we go forward on the road we've been, we will just continue to proliferate different more or less closed boxes of data.

On the other hand, EA may be helpful to honestly assess the maturity of MoND organization and ability to accomplish its missions.

The method and approach is highly dependent on MoND's ability to value it. It needs to work top-down or middle-out to show the enterprise relationships and dependencies.

Enterprise Architecture Maturity Levels are:

- initial (chaotic, ad hoc, individual heroics): the starting point for use of a new or undocumented repeat process,
- repeatable: the process is at least documented sufficiently such that repeating the same steps may be attempted,
- defined: the process is defined/ confirmed as a standard business process, and decomposed to levels 0, 1 and 2 (the latter being Work Instructions),
- managed: the process is quantitatively managed in accordance with agreed-upon metrics,
- optimizing: process management includes deliberate process optimization/improvement.

To summarize, the real benefits of EA are as follows:solid know-how of MoND area, clear facts which allow identifing problem/opportunity areas (SWOT analysis), derive/ design an operational framework suitable to MoND (using IT platforms), strategize IT costs through re-use, re-structuring.

2.2. Using a Performance Measurement System

Performance measurement is a process for collecting and reporting information regarding the performance of an individual, group or organizations. It can involve looking at process/strategies in place, as well as whether outcomes are in line with what was intended or should have been achieved.

Good performance is the criterion whereby an organization determines its capability to prevail. Performance measurement estimates the parameters under which programs, investments, and acquisitions are reaching the targeted results.

Most of us have heard some version of the standard performance measurement clichés: *"what gets measured gets done", "if you don't measure results, you can't tell success from failure and thus you can't claim or reward success or avoid unintentionally rewarding failure", "if you can't recognize success, you can't learn from it; if you can't recognize failure, you can't correct it", "if you can't measure it, you can neither manage it nor improve it",* but what eludes many of us is the easy path to identifying truly strategic measurements without falling back on things that are easier to measure such as input, project or operational process measurements.

Performance measures should be developed for each of the strategic objectives. Leading and lagging measures are to be identified, expected targets and thresholds established, and baseline and benchmarking data developed. The

focus on strategic objectives, which should articulate exactly what the organization is trying to accomplish, is the key to identifying truly strategic measurements.

Strategic performance measures monitor the implementation and effectiveness of an organization's strategies, determine the gap between actual and targeted performance and determine organization effectiveness and operational efficiency.

Good performance measures should:

- focus employees' attention on what matters most to success,
- allow measurement of actions to budget,
- provide a common language for communication,
- define explicitly in terms of owner, unit of measure, collection frequency, data quality, expected value(targets) and thresholds,
- be valid, to ensure measurement of the right things,
- be verifiable, to ensure data collection accuracy.

The thing is that the Romanian MoND has embraced continuous improvements initiatives but without identifying real and significant measurements. It seems to be half deaf to the saying: You can't manage what you don't measure nor you can't improve it.

Nowadays there are several performance measurement systems in use like: Balanced Scorecard (Kaplan and Norton, 1993, 1996, 2001) [4] [5], Performance Prism (Neely, 2002) [6], and the Cambridge Performance Measurement Process (Neely, 1996) [7] – meant for business implementation, and the ones designed for team-based establishments like: the Total Productive Maintenance/ Total Productive Manufacturing (TPM Process) authored by Jones and Schilling [8], 7-step TPM Process (Zigon, 1999), and Total Measurement Development Method (TMDM) (Tarkenton Productivity Group, 2000).

With continued research efforts and the test of time, the best-of-breed theories that help organizations structure and implement its performance measurement system emerged.

Using the Balanced Scorecard [BSC] method can be a choice for the Romanian MoND

To implement a BSC, Kaplan and Norton mention the following 5 principles:

1. Mobilize change through executive leadership (ownership and active involvement in the change project),
2. Translate the strategy into operational terms (using the 4 perspectives and a strategy map)
3. Align the organization to the strategy (coordination amongst business units, staff units and shared-service centers),
4. Make strategy everyone's everyday job (communication, education, align personal objectives, link compensation),
5. Make strategy a continual process (regular strategy meetings and update BSC and strategy map).

In addition to these, opinions of professionals in the field are also important to consult to weigh the advantages and disadvantages, as well as the most common traps of performance measurement. In this respect, some opinions about implementation expressed on 12manage.com [9] forum might be useful:

"Don't over-measure (Use no more than 3 to 4 Critical Success Factors per strategic objective or goal; use only a manageable number of measures per Critical Success Factor)" Alan, UK.

"Every objective should be assigned to a specific member of the management team, who "owns" this objective, indicator or measure." Paula, Italy.

"Keep It Simple and Stupid. Simplicity is crucial, especially in the first period. Don't assume all employees will learn in one meeting what cost you six months to prepare with your consultant . Allow everybody to see the big picture first. So start very simple and let it grow slowly." David, Iceland.

"Ensure that any measures built into a BSC are aligned and that their impact/effect on other measures is closely considered and thought through." Mark Pym, UK

"Get underneath the surface of the measures and ask yourself what behavior these measures will really drive. Discuss this with Focus Groups. Ensure your underlying policies and procedures support and promote the measures, especially your reward, benefits and HR policies.""Leaders must provide the necessary support, money, and people to successfully implement a Balanced Scorecard process/system. Otherwise, this will become just another under-powered implementation that will eventually be cancelled due to lack of seeing any real benefits." Randy Retherford, USA

"Identify your drivers first. What is driving your mission or real purpose for being in business, vision for where you are going and objectives to maintain your mission and to achieve your vision? For me it's our values, our board ends, the desires of my employees, the demands of my customers and the external environment or what's happening in my country the world. Next is identifying your strategies, what are your going to do to be different and win with your vision, these drive the objectives that are supported with learning and support required to achieve these objectives." Stan Verran, Canada

"Plan your first review during the strategy formulation and stick to the schedule. Obtaining feedback and reflecting on what the performance measures are indicating is an important step in learning and refining the scorecard. It also drives making strategy everyone's everyday job." Paul Maguire, USA

2.2.1. Cautionary Note on Using Performance Measurement System

It is important to note that performance measurement can only be applied wherever a strategy has been formulated and has to be implemented. As Norton and Kaplan say *"you can't manage what you can't measure and measure what you can't describe"*.

A perverse effect of civilian control in military sector is that leadership at senior level changes as often as the political order changes, so continuity of strategy and commitment to measurement becomes a much greater challenge than within the private sector.

Another key problem in the public sector is the assumption that legal compliance is more important than operational output. Operational output, in turn, is often severely affected by inefficient, non-standardized and undocumented business processes - all affecting the ability to communicate effectively about performance and for everyone to learn/innovate.

You tend to get what you measure; meaning people might work to achieve the explicit targets which are set. For example, emphasizing traditional financial measures may encourage short-term thinking. Kaplan and Norton recognize this, and urge for a more balanced set of measurements. But still, people will work to achieve their scorecard goals, and may ignore important things which have no place on their scorecard.

Even if all of these challenges are overcome, one still has to find reliable data. The difficulty of data collection and institutional buy-

in can be mitigated by keeping the measures simple.

Without a proper infrastructure, the main trouble will be collecting the data from the various sources, but not to define the units of measure.

The whole point of "balance" is to remove the emphasis from financial matters, so achievement of training, coaching, staff development etc. are just as relevant as a budgetary indicator.

Even though the units of measurement may be brought back to a financial base, the underlying performance is the critical element. In other words, the unit of measurement is not just used for financial issues. When we talk about performance in government we have to remember the following dimensions: financial, operational, political and social besides of the perspectives (employee, operational, financial, citizens).

2.3. Using Total Cost of Ownership Method

As previously mentioned MoND experienced difficulties in life cycle evolution of some important IT &C projects. Not thinking about all associated costs over the life time period is often the most important issue at the stake when acquiring an asset.

The Total Cost of Ownership [TCO] method is a technique which can be used to make sure that all associated costs over a given time period are considered. Some examples of assets are software or hardware. TCO can be described as all costs of owning and operating an asset over time. TCO does not only reflect the costs of purchase. It also includes all other aspects in the further use and maintenance of the asset.

There is no broad accepted formula for TCO. The main thought behind is that you need to consider all relevant costs which are related to an asset. The following list contains typical cost elements of TCO: purchase price, installation costs, financing costs, commissioning costs, energy costs, repair costs, upgrade costs, conversion costs, training costs, support costs, service costs, maintenance costs, downtime costs, safety costs, productivity costs, risk costs, disposal costs. The factors to be used depend upon where the asset will work and its characteristics. (Software, computers, buildings, automobiles, equipment, plants, etc). Any significant purchase needs a comprehensive analysis of long-term effects and hidden costs.

2.3.1. Strengths, Limitations & Benefits of TCO

Obviously it is sensible to consider all costs when an asset is acquired and so the effort that is needed to do a TCO analysis and performing analysis has itself a cost.

No general formula exists and TCO does not offer help for the valuation of intangible assets. Sometimes it can be difficult to determine whether, and to what extent, certain costs must be allocated to an asset.

Sometimes TCO might not be very helpful to align investments with strategic goals.

Because TCO is a long-term measure, it reduces costs over time. It is useful when budgeting but if you have to cut cost immediately, is not of great help.

2.4. Establish the Chief Information Officers Position

A Chief Information Officer [CIO] is the most senior executive responsible for the information strategy, information architecture, information technology and information processes within the organization.

The CIO role is sometimes used interchangeably with the role of Chief Technology Officer [CTO], although they differ slightly. When both of these positions are present

in a large organization, the CIO is normally responsible for the strategy, processes and practices supporting the flow of information, whereas the CTO is generally responsible for the technology infrastructure.

Depending on the size and type of the organization as well as other factors, the Chief Information Officer typically (but not necessarily) reports to the Chief Executive Officer, Chief Financial Officer or to the Chief Operating Officer.

CIO Roles and Responsibilities are:

- Business Partner: Participate in business strategy and process improvement,
- Decision Support: Information analytics. Open up and analyze databases,
- Classic IT Support: IT organization and service levels,
- Contract Management: Relationships IT vendors, contract management,
- Integrator: IT architecture, systems integration,
- IT Strategist: IT vision, IT strategy, knowledge management,
- IT Education: Evangelize value of IT for the organization.

Although CIOs originally had a technical (computer) background, increasingly leadership capabilities, business penetration and strategic perspectives have taken precedence over technical skills and it is quite common for CIOs to be appointed from the business side of the organization to facilitate strategic alignment.

Furthermore, because information and knowledge management have become so important for any organization, the CIO has come to be viewed in many organizations as a key contributor in formulating the overall business strategy.

For the time being this function does not exist in Romanian MoND. First documented reference about the intention to introduce it was made in *The Conception for Modernizing and Optimising Romanian Army IT&C System*, issued in 2011.

Debates about the future CIOs positions in Romanian MoND hierarchy are expected. Despite an undermining opinion that J6 chief should be appointed as CIO of MoND, the most appropriate approach should be similar to that from US DOD (Assistant Secretary of Defense for Networks and Information Integration/Chief Information Officer), or UK MOD (Director HR and Chief Information Officer).

Chief Information Officers, as the nomenclature connotes, should be the leaders of information departments in MoND. Being quite conversant with their domain and intrigues of organizations they should be knowledgeable and current in contemporary issues and events relating to MoND missions. They should be therefore, in a good seat to advise the MoND management or departments, as the case may be, on information issues. CIOs should be also part of the policy decision-making body and should see to the smooth running of the MoND, in terms of personnel and machinery.

In certain situations, however, CIOs may have to contend with the problem of identity or recognition from the top echelon of the MoND who may want to undermine him and/or refuse to accept them as part of their teams.

2.5. Using Smart Defense to Implement Modern IT&C Systems

There is a great need for an Enterprise Resource Management system that should arm personnel with relevant, accurate information pulled from a variety of systems – delivered in the right format on the right device. When upgrading to a business process platform with agile IT architecture, all data can be synchronized, for information consistency and better defense planning. So will improve

the readiness of equipment and personnel, synchronize operational planning, heighten interoperability for increased efficiency and savings, gain global asset visibility and empower better decision making. Also it should provide metric hierarchies with relationships between departmental performance measures.

MoND should use one integrated platform that synchronizes resources to ensure forces are trained, equipped, and ready for a full spectrum of operations and model material and resource availability using organizational structure, deliver force management capabilities that enable interoperability and provide visibility and readiness of available resources across platforms.

Implementing virtual technologies should be spread to leverage infrastructure and should go along with increasing data channels qualities in term of bandwidth and availability. In conjunction taking into consideration cloud computing should be other priority. Even security seems to be the greatest challenge in outsourcing, an in-depth analyse, related with previous projects outcomes, could determine an important change in attitude.

3. CONCLUSIONS

How much of these are feasible, by whom and under what conditions? The answer resides both inside and outside MoND. As an example, not discussing the morality of military pension's recalculation, the process brought an unexpected positive outcome. The extremely intense process finally proved that MoND specialists were able to successfully deal with an almost unimaginable information problem. Everybody must admit that facing it could not be possible without the highest level management determination.

In a dangerous and volatile world where resources are stretched to their limits, political leaders and senior military have to make difficult decisions and painful tradeoffs more often than ever before.

Finding solutions to actual deficiencies concerning information resource management in MoND exceeds the purpose of this paper. What I hoped to do is offering a glimpse to possible ways of action, having in mind that, without doubt, better information management creates the framework for structural knowledge needed to answer wisely to one of the most challenging question of our days: How can the best possible decisions in these difficult times be enabled?

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