Moving Towards Extended Information Management (within Ecosystems)
Introduction and key concepts

As the economy and the society overall connects ever more deeply and intricately, organizations need to start thinking more broadly about how they lead their information management practices.

Decisions about why, what information is acquired, stored, processed and shared cannot be made thinking solely based on internal premises and requirements any longer without risking strategic opportunities and the most effective business solutions.

Ecosystems thinking, which consists of considering organizations, their partners and clients holistically (as a system), should span information management strategies, and shared standards relating to information and data taxonomies, metadata management, data quality management, identity management and security and infrastructure services.

Solutions on how to implement data and information acquisition, aggregation and storing, business access services and information delivery and sharing should remain more decoupled, as organizations need to be able to retain the ability to control their own business process development.

The idea here is analogous to an established IT systems architecture principle; Model–View–Controller (MVC), which separates the data model from how the data is processed and accessed by the users. Here the analogies take to a broader plane of thinking – the organization and the extended organizations, e.g. ecosystems.

Need for a broader and deeper collaboration and the most common pitfall of execution

When stated in this article, “collaboration” refers to information sharing and dissemination - in a structured and organized manner.

Organizations today need to collaborate more widely and deeply than ever before. This trend will continue and deepen, as it is caused by the world connecting through internet and digital service platforms. If you do not connect within your ecosystem more deeply, you cannot respond to the rapid changes in how society and the global economy operate and what is expected from any organization as interdependent parts of their wider value networks, i.e. ecosystems.

These ecosystems can be viewed from different perspectives and levels. There are closer and tighter networks and wider, more decoupled groupings of entities that may need to be considered. Nevertheless, wider collaboration needs to happen within most ecosystems.

Extending the data and information management outside organizational boundaries in a structured and managed way is not only beneficial for most organizations, but a given requirement for many. Still in many occasions the information flows that are clearly not confined to a single organization, are hampered by the lack or, in many cases, non-existing common structures and processes for setting the vision, strategy and standards around the matters.

An example here is my recent client, a public organization and a member of a group of independent public organizations that all have aligned missions and goals and cooperate intensively to serve their (typically common) clients. In addition, all these (three) organizations need to consider the administrative sector as a whole. The next layer, further decoupled but still to be considered, would be certain regional agencies, both domestic and internationally. The widest layer would be the public. The innermost three layers need to be involved in planning the information management visions, strategy and standards of my client (and the ecosystem as a whole). Innermost layers should be tightly cooperative while the outermost less.

What often happens when collaboration is required within the ecosystems, especially in public sector organizations (where such an approach is more realistic and possible in the first place), is that the integration is executed wrong: It is executed at the process (controller-view) level, rather than at the information (model) level.
Only if there is are clear and undeniable basis and rationale for process integration, should that happen. Most often, the real need is to share data and information, not the processes.

What then becomes the key here are shared information management strategies and standards between collaborating organizations. These strategies and standards will not necessarily dictate, but rather guide and direct the decisions of the organizations within the particular ecosystem about why and what their enterprise information architecture should look like: Taxonomies, metadata, data quality, identity management, security and infrastructure standards.

An example of a rational decision taken in Finland recently is certain major health care districts’ approach on how they will be developing a shared patient information registry. Instead of taking on a transition to a single system (where all layers of the MVC are implemented, to allow the analogy here again) for all the districts to adopt and use, the districts have chosen to define a clear information strategy, data models and standards, and joint business requirement definitions. These three (strategy, standards and requirements) enforce the critical aspects to enable efficient information sharing and effective information governance. Stakeholders of the initiative are free to source and develop their own solutions with their chosen solution suppliers, as long as the defined and agreed standards are followed in the implementation and maintenance of the solution. This model does expand to the process integration layer; however, it leaves freedom for the stakeholders in how and with whom they implement their processes.

An opposing approach was taken with the patient record system of certain other major municipalities in Finland. This solution comprises of a full system, including the process and information layers. It remains to be seen how this very large initiative (at least by Finnish standards) will pan out, but I fear the risks to be very high due to the rigid process level integration. Not least due to the inherent volatility of business needs and changes to (independent) stakeholder’s processes in the future. I believe the real need here, too, is information and data integration, not process integration. Business cases should be developed with much care and thought, and different solutions models should be extensively analyzed before integrating potentially too much in the hopes of cost savings and efficiency improvement alone.

**Extending information management beyond organizational boundaries**

Organizations, especially those where there is a clear need, viable means and required mandates, should look at the possibility of removing the blinders and reigns of information management and opening them to be steered and managed collaboratively with their close partners, and in certain areas, as fit for their purpose with the wider stakeholder ecosystem. This applies to public sector in particular. Figure 1 depicts the basic concepts of extended information management.
The first key idea is **common strategic direction and standardization within the ecosystem**. Information management vision and strategy to achieve that vision can and in many settings clearly should be defined together, rather than individually. It is simply very shortsighted and narrow thinking not to.

Vision and strategy define why, and what data and information should be shared within the ecosystem. Standards and policies - the tools (the how) to actually instigate and direct the implementation of the strategy - should then be derived based on the vision and strategy.

Second key idea is the **separation of information management and solutions management space** (i.e. applications and information systems) and their management. Joint strategy and standards development touch the solution space, especially in the areas of enterprise information management; content management and business intelligence (if shared BI analysis and market intelligence dissemination are desired).

The reason for this separation is simple: Flexibility. There simply is no need to couple the information and services (solutions) tightly. This has been demonstrated by the MVC pattern at solution level IT architectures for decades. This same pattern applies when we look at multiple organizations and multiple data sources as a system; the systems thinking principles behind the model remain current and relevant.

What should be standardized varies, but overall consideration should be placed on aspects such as those depicted in Figure 2.
Suitable governance structures should be established to define the common vision and strategy, evaluate the required standards and policies and, where required, monitor the implementation of solutions as fit for purpose. These governance bodies and their representatives will ensure that data and information are managed as an asset of the extended enterprise. Ownerships are assigned to the appropriate business leaders and data owners are accountable for adherence to agreed standards and policies. Solutions suppliers may have representatives in these bodies as fit for purpose.

Standards and policies are developed and mandated as fit for purpose. Subject area focused workgroups consisting of data owners may be established to define and maintain these standards and policies. Key experts from each ecosystem stakeholder are presented.

The standards and policies can cover not only the ones mentioned in Figure 2, but can extend to cover the more technical matters of solutions; for web channels, resource and performance management, BI, and content management, as listed in Figure 1.

Solutions compliance to the common standards should be verified as per agreed processes. Any issues should be tracked, managed and prioritized based on agreed principles. Changes to standards and policies should be managed through a structured process.

Individual organizations will retain their internal information governance structures and processes as they see fit, as long as certain fit-for-purpose ecosystem level decisions and principles are followed to guide organizations’ internal decisions of what and how to implement in their solution space. Some of the solutions may obviously be shared, when there is a clear and sound business rationale. This rationale is sadly often lost, leading to very risky approaches - as in the case example above.

Figure 3 provides a generalized view of the governance layers for ecosystem information management.
On applicability and benefits

Integration of the information governance principles described in this article need naturally be integrated as an integral part of the overall Enterprise Architecture model of an organization, if such a model exists. If an EA model is lacking, or non-existent, it should be defined. Process and information architectures are the most vital parts of a business driven EA model. EA is a business document, not a technical paper.

Overall, the models of this article cannot extensively be applied in many ecosystems easily. In some cases the benefits of harmonization may not yield enough benefits to justify the efforts of bringing different organizational processes together; however, those areas that would be beneficial and viable to strategize and standardize can be identified, then evaluating whether to proceed with changes or not. In public sector settings, the suggested models can typically be more easily instigated - and mandated.

Govern and manage the shared data and information together with your ecosystem partners, and your organization’s productivity, innovation and effectiveness will increase. You will be able to serve your clients faster and more accurately. Separate the solutions space from the information space and you retain the freedom to be able adjust your processes as you see fit at a given situation when the need for changes occur - and occur they will.

About the author

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