



Club Urba-EA
ENTERPRISE ARCHITECTURE

2016 Project

Toward a « data centric » IS

EXECUTIVE SUMMARY (FROM THE FINAL REPORT)

Philippe Anquetil, Jérôme Bernard, Nicolas Grzczkowicz

November 2016

The full report (in french) is available to Club Urba-EA members from Club web site



Club Urba-EA¹
ENTERPRISE ARCHITECTURE

*Club Urba-EA projects
about data*

2008 : *Architecting data*

2010 : *Implementing
MDM projects*

2012 : *Data and
information
architecture*

2013 : *Introducing the
data layer into the
Club Urba IS
model*

2014 : *Enterprise
architecture and
data mastering in
organizations*

2015 : *Analytics and Big
Data : new
architectures for
data processing*

For many years Club Urba-EA has recognized the importance of data in business and IS transformation as well as in new businesses and new usages development. Club Urba-EA has regularly conducted projects on this theme.

The 2016 project « Towards a data centric IS » is in line with these projects.

It aims at depicting an up-to-date view of critical factors making organizations and IS more data centered. Five factors have been analyzed

- **Developing data knowledge and architecture**
- **Opening business and IS on organizations environments and ecosystems**
- **Facing data-based regulation development**
- **Monetizing and governing data**
- **Evolving toward a data sharing IS architecture**

The choice of these factors results directly from the field experiences and feed back on which the project is developed. Doing so, it must be acknowledged that other important factors of data centric transformations might have been left aside.

The project is developed based on feedback of **some fifteen cases** and the experience of the working group participants from **13 organizations**

Participants organizations

						
						

Project Management

Philippe ANQUETIL

Jérôme BERNARD

Nicolas GRZECZKOWICZ

ANQUETIL Conseil

Oresys

Oresys

EXECUTIVE SUMMARY

Developing data knowledge and architecture underlies all factors analyzed in the project. **It is a pre-requisite for any kind of business and IS evolution triggered by the digital transformation of organizations, as well as the development of data-based regulation.**

Data knowledge and architecture covers many aspects. The approach to develop data knowledge and architecture has to be defined on a case by case basis, depending upon each one context, target and ultimately problems to be solved. This is clearly illustrated by the variety of cases presented during the project.

All business and IT actors having a stake in this approach must be associated, whether traditional or new like CDOs (Chief Data Officer), in a cross functional view, including the organization environment. Enterprise architects as well have an important role to play as pilots or facilitators.

This approach should result in building, consolidating or enriching a **foundation of data knowledge shared between business and IT**. It must also take on organizing the management and the governance of this knowledge.

Digital transformation of organizations leads to digitizing information flows, interconnecting domains which were isolated so far and creating/developing new digital native domains. **This results in a progressive integration of the IS organization, its environment and ecosystem, along with the transformation of the business it supports.**

Such integration reinforces the need for a close interaction and link between business and IT for business to be able to work effectively. A way to reinforce the necessary cooperation between teams is to **mobilize them on common goals**. For example, in the transformation of marketing into digital marketing case addressed by the project, the customer is the common goal. Another way to reinforce this cooperation is to develop **a mixed culture** as the digital marketing example clearly shows.

With time, as Gilles Babinet states it (Les Echos 28/08/2016) « **all organization will become platforms at the center of all interactions needed to better fulfill their mission** ». At this stage IS will be at the heart of organizations environment and ecosystem.

Data-based regulation relies more and more on IS data. **Being able to master IS data to a fine-grained level , to trace data lineage, to audit data, to manage data life cycle... is becoming crucial for organizations.**

Data-based regulation strongly **impacts IS architecture**, design, implementation and operation. It also **strongly impacts business** because it cannot be implemented without a cross organization governance. It generates new constraints for business and may require the emergence of new actors in the organization's structure.

Among data-based regulations a close attention must be paid to the european **GDPR** (General Data Protection Regulation) which impacted organizations should implement by May 2018. GDPR regulation will have a **strong impact on all organizations relying on customer data**. It will require **new procedures and a new organisation with a new key actor, the DPO** (Data Protection Officer)

Regulation is often considered by organizations as a constraint or even an obstacle to evolution or innovation. However data-based regulation **can be an opportunity to invest and drive IS towards a more data centric IS.**

With digital transformation the volume and diversity of available data have exploded. **Monetizing and governing these data is becoming a major concern for organizations.**

When the value of data for the organization has to be established, monetizing the data has to go through **a Proof of Concept step**. This first step is not seamless as shown by the feedback reviewed in the project : difficulty to determine relevant use cases, locate and extract data from the storage silos, prepare them for further processing, integrate them with external data, ensure that all actors understand each others and finally make sure the results are understood...

In any case **rules have to be established and a governance organization has to be set up** to deal with problems such as accessing and sharing data, data responsibility and ownership, data security and personal data protection, data publication, data quality, data trust... Setting these rules and governance is mandatory whenever general or specific regulation constraints apply to the usage of data.

Recognizing the importance of better mastering, monetizing and governing data, **a growing number of organizations appoint a Chief Data Officer (CDO)**. Responsibilities and reporting lines for the CDOs differ among organizations.

With digital transformation new needs appear. More easily accessing data across the organization, sharing data, using a wider diversity and larger volume of data ... are getting required.

New architectures built upon internet and open source technologies (Hadoop ecosystem, NoSQL data bases, API management...) and **interfacing with legacy IS** are progressively meeting these demands. Several implementations and target architectures have been presented during the project.

Looking ahead, these new architectures rely upon a model where data are stored in a platform regardless of sources and applications which produced them, a so-called « **data lake** » or « **data hub** ». This essential feature **allows to access data across application silos independantly**. Several other characteristics of these architecture are given in the final report.

A data sharing IS architecture is made of a **technical platform**, **sets of data**, **a portfolio of usages**, a **supporting organisation** and a **pool of technical skills**. Implementing such an architecture implies a strong coordination between all these features. The implementations analyzed by the project show different strategies, some **progressive** and others **pro-active, starting with the deployment of a technical platform**.



Business requirements, digital firms, IS transformation, mastery of data, technological opportunities... Club Urba-EA discusses on topics of Enterprise Architecture (EA) from the perspective of experience feedbacks.

Club Urba-EA is an inter-business association created in 2000 by AXA, FNAC, ORESYS, RATP, SUEZ, Lyonnaise des Eaux. The club is a professional non-profit organization.



Exchange of information

between professionals in charge of the evolution of information systems,



Share experiences

and capitalize on the expertise,



Promote approaches

to companies (IS Managers, Business Project Owners, Management, ...) as well as to higher education.

More information @
www.urba-ea.org

Les actions menées par le Club

Les Mardis de l'Urba-EA

Organisés en partenariat avec le CIGREF. Rendez-vous mensuels thématiques sur les tendances en architecture et en gouvernance du Système d'Information, sur la base d'exposés d'entreprises, d'experts et de fournisseurs.

Journées professionnelles et partenariats évènementiels

Les journées plénières et les manifestations avec nos partenaires sont l'occasion d'élargir les points de vue. Elles réunissent des experts et sont le lieu de débats, d'échanges et de partage des résultats des projets menés par le club.

Les projets d'échanges et de capitalisation

Menés en groupes de travail, ils sont l'occasion de partager les expériences entre les entreprises et de capitaliser des best-practices.

L'Observatoire des pratiques d'Architecture d'Entreprise

Une vision des différentes pratiques d'Architecture dans les entreprises qui permet d'en suivre les évolutions.



Exigences métiers, entreprise numérique, transformation du SI, maîtrise des données, opportunités technologiques, ...

Le Club Urba-EA, association inter-entreprises, créée en 2000 par AXA, FNAC, ORESYS, RATP, SUEZ Lyonnaise des Eaux, aborde les différents sujets liés à l'Architecture d'Entreprise (ou « Enterprise Architecture, EA »).



1. S'échanger des informations

entre professionnels en charge de l'évolution des systèmes d'information,



2. Partager les expériences

et capitaliser les savoir-faire,



3. Promouvoir les démarches

auprès des entreprises (Directeurs de SI, Maîtres d'ouvrage, Management, ...) ainsi qu'auprès de l'enseignement supérieur

Pour adhérer au Club
Rejoignez nous
sur www.urba-ea.org