By Denis SKALSKI | Business Intelligence Consulting Director - Keyrus

The main challenge for decision support at the moment is to meet the growing needs of users within timescales that are compatible with the pace of business activity. Irrespective of existing decision-support arrangements, it should be possible to implement a decision-support architecture and governance structure that reconciles business departments’ need for responsiveness with IT departments’ requirement for control.

In the last ten years, decision support has come to occupy a strategic position in enterprise. However, it is currently facing a major dilemma by virtue of the fact that it is so central to information systems, with IT departments finding that they are unable to fulfil vast numbers of requests from every level of the business – general management, business departments, operational teams and even clients and suppliers – within acceptable timescales. This lack of responsiveness has had the effect of prompting users to seek out solutions for themselves that respond more quickly to their needs but that are impossible for the IT department to control, thereby weakening the decision-support system by fragmenting it and making it even more difficult and costly to maintain and develop.

At the end of the day, it is the business’s capacity to monitor its activities and ensure regulatory compliance that is affected, which ultimately impacts on its competitiveness in an economic environment where it is essential, above all, to know how to act quickly and anticipate. Reasserting a few architectural principles helps to break this vicious circle and establish a development and governance model which allows users greater freedom and independence, while guaranteeing the integrity of decision-support systems and their ability to respond quickly to new requirements.

FOUR ESSENTIAL PRINCIPLES

To achieve the twofold target of responsiveness and control, the first principle involves reasserting the integrity and cross-functionality of the decision-support system. To this end, it is necessary to ensure its impermeability with respect to other corporate systems in such a way that the decision-support environment is neither affected nor undermined by inevitable developments in the operational systems which feed into it, not just by way of version upgrades, additions, retractions and application consolidations, but also by way of internal restructuring, sales of parts of the business, and mergers and acquisitions of activities or operating units.

“The principle of impermeability allows decision support to remain responsive and reliable, by minimizing the impact of source system development on decision-support systems’ gathering, storage and management processes.”

The second principle involves breaking down the decision-support system itself into highly structured sub-systems, each of which independently fulfils a very specific brief. This approach of separating out particular functions enables each sub-system to be independent from the others and to develop more quickly according to service requests from other sub-systems.
The third principle, which is inextricably linked to the second, involves standardizing exchanges and communications between the various components of the decision-support system and between those of other parts of the information system.

Lastly, the fourth principle, which is less often applied, involves modifying the data that feeds into the decision-support system at as early as stage as possible – i.e. as close to the business lines as possible – in such a way that it retains its functional integrity and can still be used by the largest number of decision-support applications without requiring further transformation.

**Highly-structured architecture**

Observing these principles allows companies to establish a standardized decision-support architecture where users – including business departments, subsidiaries and others – have access to free spaces in which they can carry out operations that meet their particular needs without jeopardizing the overall consistency of the system.

This architecture relies on blocks or highly structured sub-systems operating within an administrative system that guarantees the functional and technical compliance of the whole and, by means of a central meta-dictionary, ensures standardized semantics. The first of these sub-systems is concerned with information gathering. As the single point of entry in the decision-support system, it is this sub-system that stipulates to source systems the format in which it needs to receive data. Its role is limited to a review process prior to sending data to the second sub-system – the data warehouse, which stores and archives data in unmodified format based on unified semantics, which means the data can be used by all downstream sub-systems.

In fact, the data warehouse is the main point for feeding into specialized sub-systems where data are transformed, modelled and enhanced in order to meet the specific reporting, analysis and consultation needs of the company’s various business lines. Below these business-line sub-systems, there is a shared sub-system, which contains decision-support-data presentation and dissemination tools and manages data access authorizations and the roles of various user categories.

**“Controlled” free spaces for business lines**

The originality of the model is based on the subdivision of each specialized sub-system into two parts. The first is a standardized space managed by the IT department, which gathers, integrates and stores data according to the established rules of business-line decision-support applications. The second is a space where, without interference from the IT department, users can load and organize data freely and, according to their skill level and the entitlements they have been granted, develop databases with specific operations, queries, exports, simple management charts, dynamic reports, analyses and simulations.

In this free space, business departments can do what they have always done and increasingly do since the advent of BI applications that are particularly easy to get the hang of, such as QlikView, Tableau and certain new product lines from major publishers: develop applications themselves that respond to specific, urgent, recurring or ad-hoc requirements. However, within a controlled framework, these initiatives cannot adversely affect other applications. On the contrary, they help enhance the decision-support system and move projects along.

In fact, if an application designed in the space adds value and corresponds to an ongoing requirement, the business department can request that it be standardized. Requests are managed by the IT department who, once their relevance is established, executes them in compliance with data quality, documentation and production standards. This process makes the IT department’s job easier, especially with regard to specification and acceptance testing phases. It does away with the “tunnel effect”, which afflicts so many decision-support projects as, while awaiting delivery of the standardized version of the application, the business department can, without undermining the project, continue to use “its” version.
A SPECIFIC TYPE OF GOVERNANCE IS ESSENTIAL

The experience shows that this way of developing and managing can be introduced regardless of the company's existing decision-support arrangements. Major corporations have adopted it to combat the proliferation of unstable applications that are costly to maintain based on Excel and Access; others, to maximize the value of analytical applications developed in certain subsidiaries by making the applications accessible to subsidiaries across the board as a service; others yet in order to contain risks while they wait for their data warehouse to be finalized. It is therefore not necessary to “start from scratch” in order to capitalize on this approach.

While this model covers the functional, application and technical layers, its smooth operation is, however, dependant on the implementation of a specific type of governance, which brings together the business departments and the IT department and stipulates their respective areas of responsibility. Essential to this governance structure, in particular, is cross-functional decision-support-focused project management, a project owner that is capable of negotiating standardization requests issued by the business lines, a governance unit for each business-line space, whose managers benefit from training in IT requirements and constraints, and lastly – between these structures – workflows that facilitate collaboration and decision-making and procedures for reporting on and rectifying anomalies.

Denis SKALSKI is Consulting Director for the Keyrus Performance Management consulting department. He worked for 20 years in banking Business Intelligence Solutions, he was employed in different big consulting firms and numerous French and international companies. He created the concept of “Free spaces” registered by Keyrus.

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