

Strategic Management of Enterprise Applications

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Many organizations manage their critical enterprise applications, information technology, and projects on a case by case basis. While this works, there are numerous benefits to taking a strategic approach to managing enterprise applications. In this article, we show how leading education institutions like the British Columbia Institute of Technology and the University of Victoria have significantly delivered better organization results, while reducing overall project and IT costs using a strategic approach to enterprise applications, governance, and project management.

Background

At the Canadian Banner User Group conference in Victoria, BC, Canada in the fall of 2010, Leo de Sousa gave the presentation *Practical Approaches to Enterprise Architecture*. His presentation outlines how an Enterprise Architecture (EA) approach has provided benefits to BCIT from predictable planning to enhanced communication to all their stakeholders. At the same conference, Nav Bassi of the University of Victoria gave the presentation *University Systems PMO - The Evolution of Portfolio Management*. Bassi's presentation showed how the UVic PMO office enables other people in the organization to make their own project management decisions within the context of the entire organization.

Why Strategic Management?

Large and complex organizations, such as BCIT and UVic, have evolved large and complex IT infrastructures. Keeping these infrastructures running is expensive. Choosing, implementing, and integrating new applications into the existing infrastructure is even more expensive. To manage this complexity both organizations have moved to strategic management and governance of existing and new IT applications.

The benefits of moving to strategic management of enterprise applications include:

- Aligning projects and IT with the strategic goals and vision of the organization insuring that their strategic goals are met.
- Creating measurable organizational results faster.
- Ensuring that projects succeed and only choosing ones that have a high probability of success.
- Getting buy-in both inside and outside IT to enterprise changes.
- Clear decision making provides clarity and fairness to all stakeholders about the project decisions that are made.
- The highest priority projects with the biggest benefit to the organization are chosen.
- To provide life cycle management to both projects themselves and to IT technologies within an organization.

Enterprise Architecture

With these many benefits, why don't all organizations adopt strategic enterprise management? One reason is that many people are not clear on what enterprise architecture, a necessary precursor to strategic management, is or is not. For many people, the terms Enterprise Architecture (EA) and Information Architecture (IA) are the same thing. De Sousa of BCIT quotes EA expert Tom Graves:

"A true enterprise architecture is the architecture of an enterprise as a whole - not solely the architecture of enterprise IT."

In Tom Graves presentation [Enterprise Architecture on Purpose](#) he provides his view of whole-of-enterprise architecture:

- Classic EA starts with IT infrastructure
- IT technical architecture depends on applications
- Applications architecture depends on data
- Data architecture depends on business information need
- Information architecture depends on business
- Business architecture depends on enterprise
- Enterprise architecture defines the context

BCIT's EA efforts match this definition and are focused on the strategic goals of the organization, aligning technology with the education, research, and business needs of BCIT. EA governance comes from senior management across schools at BCIT and not from IT.

Project Management

BCIT and UVic have moved to a documented senior management process for review, approval, and management for all projects that involve IT. At BCIT, projects are submitted, then evaluated, and placed into one of the following categories:

- ITG Committee: Executive (President and VPs). Considers strategic and organizational transformative projects with broad client impact. Relies on business cases to understand projects.
- Business Application Committee: Pan Institute (Directors and Managers). Rank small projects based on published criteria. Relies on requirements document to understand projects.
- IT Services Core Delivery: IT services management. Can be resourced at least 85% from existing staff. No additional capital expenditure required.
- Recommend Alternative Delivery: Cloud based services funded by the clients. Little or no involvement from IT. Opportunity based. One example was that the BCIT Foundation needed a registration system for a golf tournament. The decision was to use a hosted solution for this one time event.
- Will not be done: The project is not aligned with the BCIT strategy. It does not meet EA guiding principles. No budget or staffing.

At UVic, they have a similar process with different criteria:

- Project Lite: < 20 person days (and requires more than 20 hours of effort)
- Project Charter: >= 20 person days and < 40 person days

- Project Plan: \geq 40 person days

All UVic chartered projects and project plans require a project closeout report.

Technology Life Cycle

BCIT views all major information technology infrastructures in terms of overall life cycle. They started with a complete infrastructure inventory in 2007. From this, they created technology matrixes for every major technology that they support. Examples of technologies they support include:

- Operating Systems, both server and desktop
- Databases (Oracle, MySQL, MS Access, MS SQL Server), including the different versions they support
- Browsers
- Web Servers
- Application Development
- Middleware
- Directory Services
- Hardware

Their goal is to go from seven major solutions architectures to three over the next several years. For each major technology, states are defined for the different phases of the technology life cycle. These states are:

- **Watching:** Staying aware of upcoming changes in the technology.
- **Research and Development:** Actively researching a technology for application and deployment at BCIT.
- **Investing:** Making new investments in a technology.
- **Sustaining:** Maintaining an existing technology.
- **Containing:** Making sure that no new deployments use the technology.
- **End of Life:** Removing the technology from BCIT's IT infrastructure.

In De Sousa's presentation, he showed the evolution of their Oracle database technology. In 2009, they committed to End of Life for all instances of Oracle 9.2.0.4 and 9.2.0.6, sustaining investments in Oracle 10.1.2.02 (10G), and research into Oracle 11.

Build versus Buy

Every organization struggles with the build or buy approach to their IT applications and solutions. At BCIT, they have a simple three step process to evaluating which architecture to implement:

1. Reuse before acquiring
2. Acquire before create
3. Create reusable components

Their effort in reuse has allowed BCIT to realize cost savings in training, effort, and duplicate infrastructure while leveraging their existing infrastructure investments.

Prioritization

Bassi's presentation did not get into the technological details of UVic's IT infrastructure or their build versus buy process. He did cover how to make difficult people resource decisions balancing the needs of operations to keep existing infrastructure going and project needs to create new applications and infrastructure to further UVic's strategic goals.

There is a natural tension between resource managers and project managers. In order to insure that the human resources do not become overcommitted and burned out, a process is needed to fairly allocate a given person's time without numerous context switches. Bassi presented much more detail of how the global versus local decisions are made in his presentation. We only document the overall concept he said.

Resource decisions are broken into global and local priorities:

Global: Solve problems as they arise to maximize project success. Determine which projects can gain resources at the expense of others. Determined at the project portfolio level by the PMO office and applies to all projects.

Local: Determine who works on what and when, assigning work to human resources. Based on work units with the goal of preventing inefficient context switching. Determined at the organizational unit level by the manager whose unit's resources are involved in these projects.

At MB Foster, we see this challenge on large migration projects. If people are assigned to work on the migration it is critical that they have no operational responsibility. At UVic, resource rebalancing let's them have smaller projects with people who both work on the project and provide some operational support.

Project Results at UVic

UVic's global versus local process makes the tension between resource and project managers obvious to everyone. It leaves the resources alone and forces the managers into discussion. Balancing resources allows the PMO office to demonstrate reality. If the clients are not happy with the reality ("Yes, we can do that project in two months"), there is a way to make changes, using prioritization as a guide.

Before UVic formalized the PMO office and project management they had a lot of excellent staff running around fighting fires. Staff got tired of running. Fires spread and got out of control. Today, the entire process is managed in a way that is visible to all stakeholders. In fact, there are few fires. Even less staff burn out. The right projects get done in a time frame and budget that is predictable and manageable.

Practical Results at BCIT

There has been a ten year evolution of the EA role at BCIT. It started in 2001, with a new vision for the organization. In 2004, the BCIT Technology Enabled Knowledge (TEK) initiative was started. As part of that initiative, EA was introduced to BCIT. In 2005, the EA position was created. Today, EA forms part of BCIT governance, including all major software purchases.

Prior to the BCIT TEK initiative, IT systems revolved around the Banner Student Information System. There were many point-to-point integrations with Banner and many of them were not in real-time. This led to numerous data issues, inside and outside the Banner application.

In 2004, the strategic decision was made to create an architecture based on Web Properties focused on single points of entry and contact for students, faculty, and staff. They also created the vision of a single integrated architecture covering enterprise processes and data.

Today, all software and data integration points are documented. New projects and applications can be introduced to the overall architecture without creating an explosion of data integration points. Life cycle management creates much lower total cost of ownership, delivering more value to BCIT's stakeholders.

Summary

Strategic management of enterprise applications requires inclusion of numerous mind sets, governance, and process changes in an organization. It is truly a completely different way of viewing applications and how they meet the strategic goals of the enterprise. Using strategic processes at BCIT and UVic has created numerous benefits to both organizations. These include better alignment of applications and IT with organizational goals, better allocation of resources; including human resources, lower costs, and accountability and visibility for everyone inside and outside of IT.

At MB Foster we deal with strategic management of enterprise applications every day. We help clients with governance, project management, application selection, data governance, data quality, and data delivery. Let us show you how you can deliver more for your organization using a strategic approach.

About the British Columbia Institute of Technology

Established in 1964, BCIT is one of British Columbia, Canada's largest post-secondary institutions with 48,000 students enrolled annually. There are six schools spread over five campuses and eleven satellite facilities. There a total of 2,200 faculty and staff with over 100 employees in IT services. BCIT has six schools: business, computing and academic studies, construction and the environment, health sciences, industrial processes, and transportation.

About The University of Victoria

Founded in 1913, The University of Victoria is the second oldest degree granting institution in BC. Located in Victoria, the capital city of British Columbia, the attractive campus and mild weather attract students from across Canada and around the world. More than 19,000 students attend the university, with 843 faculty and 4,400 staff. The university grants both undergraduate and postgraduate degrees, including medical degrees. UVic is one of Canada's top 20 research institutions.

About MB Foster

MB Foster has the people who understand how to deliver applications and data that match our customer's business needs. For more than thirty years we have been the trusted advisor to customers ranging from local government to Global 100 enterprises. Our personalized service has proven time and again that we listen to customers and then find the right service strategy to provide solutions that solve their business and information technology challenges today and into the future.

Whether it is a software product, migration project, data services, or project management, we make it easy for customers to deliver the right information to the right person at the right time. We work with our customers to streamline their IT business operations to reduce costs, improve delivery, and grow revenues. Learn more at www.mbfoster.com.