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Investment Spend Optimization: A New Approach to IT Investment at BMO Financial Group

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Executive Summary

Investment Spend Optimization—ISO—is a disciplined, business-driven, enterprise-wide approach to evaluating and managing IT investments. Devised by BMO Financial Group, it has been used since mid-2007 for the annual IT budget-setting process. The ISO process enables the bank to articulate the expected return on its IT investment and to closely track that return, with business managers being held accountable for IT spending. This article describes the ISO process in detail—the way projects are categorized and prioritized, the governance structure, and the annual planning process. It also describes the substantial qualitative, quantitative, and ancillary benefits BMO has obtained from adopting ISO. The article concludes by identifying the lessons other organizations can learn from BMO's experience and providing guidelines they can use for devising their own approaches to making better IT investment decisions.

ISO—A NEW APPROACH TO IT INVESTMENT DECISIONS

Going before the board to defend the IT budget is an annual CIO ritual. It is typically approached with a mixture of apprehension and trepidation. When the total IT “ask” is hundreds of millions, the anxiety multiplies. But, in July 2007 at BMO Financial Group,² this all changed. At the annual IT budget final review, all questions concerning the size of the IT budget, its justification, and the resulting benefits were addressed by the senior business managers. All questions regarding the accuracy of the numbers behind the business cases were addressed by the CFO. The main question directed to the CIO was “Can you deliver this?” For the first time in the bank's history, it could articulate the expected return on its IT investment—a return that would be closely tracked in order to hold the business accountable for what it was spending on IT. How this happened is the story of ISO—Investment Spend Optimization—a new approach to IT investment at BMO.

This article describes the ISO process in detail and discusses the impacts it has had on both the IT group and the business. It also examines the ongoing challenges faced by this large organization in making decisions about how it spends its IT budget and provides guidelines that other organizations can use to make their IT spending more effective. (Information about the research carried out for this article is included in the Appendix.)

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THE GENESIS OF ISO

In 2006, BMO's IT group consisted of almost 7,000 professionals based in both Canada and the United States. It had adopted standards such as the Capability Maturity Model (CMM) and its successor (CMMI), ISO 9001, and The Information

¹ Jeanne Ross is the accepting Senior Editor for this article.

² BMO Financial Group (BMO) is a highly diversified North American financial services provider (including Harris Bank) with revenues of \$9.5 billion in 2007 and 35,827 employees. (Note that U.S. dollars are used throughout this article.)

Technology Infrastructure Library (ITIL) to ensure that its processes were efficient, cost-effective, and on par with, if not higher than, industry standards. It had been certified at a minimum Level 3 CMMI and was an industry leader in delivering projects on time, on budget, and in scope. However, despite the IT group's process maturity, productivity, and efficiency, BMO executives felt that IT spending was not as effective as it should be. There was a strong desire in the organization to capture the value from IT investments, to ensure they were strategically aligned to the enterprise agenda. The executives wanted proof in the bottom line.³

To achieve this, in late 2006, a small cross-functional team, sponsored by the Strategy, Finance, and IT groups, was created to look at some of the challenges the company faced with its IT spending. These included:

- Inconsistent alignment of the total IT development budget with enterprise strategies.
- Project approvals made in line-of-business "silos" without addressing cross-group synergies.
- Inconsistent business cases and a lack of rigor in the data provided to justify expenditures.
- An inconsistent process of reviewing "in-flight" projects and decommissioning them where necessary.
- No, or very limited, tracking of benefits and accountability for delivering these benefits.⁴

These problems were exacerbated by the way IT budgets were allocated. Small lines of business (known as Groups) had smaller IT budgets than larger Groups:

³ The initial trigger for the ISO initiative was the inability of BMO executives to satisfactorily answer a question posed by a management consultant: "How do you know if you are spending on the right things?" The ISO initiative was established to answer this specific question. In fact, the name "Investment Spend Optimization" arose from their desire to satisfy themselves that they were "optimizing" their IT investments by creating organizational mechanisms that would ensure they were spending on the "right" things.

⁴ These problems are not unique. See, for example: Austin, R. D., Ritchie, W., and Garrett, G. *Volkswagen of America: Managing IT Priorities*, Harvard Business School Press, Case #606003-PDF-ENG, October 2005; Ward, J., Daniel, E., and Peppard, J. "Building Better Business Cases for IT Investments," *MIS Quarterly Executive* (7:1), 2008, pp. 1-15; Peppard, J. and Daniel, E. "Managing the Realization of Business Benefits from IT Investments," *MIS Quarterly Executive* (6:1), 2007, pp. 1-11; Nelson, R. "Project Retrospectives: Evaluation Project Success, Failure, and Everything in Between," *MIS Quarterly Executive* (4:3), 2005, pp. 361-372; Soh, C. and Markus, M. L. "How IT Creates Business Value," *Proceedings of the 16th Annual International Conference on Information Systems*, Amsterdam, 1995, pp. 29-41.

"For some small Groups like ours, government mandatory projects ate up our entire IT budget." (Cindy Ulrich, Senior Vice President [SVP] of Business Banking Product Management at Harris Bank)

This made it extremely difficult to allocate IT resources strategically.

To tackle these problems, BMO senior managers realized that they needed a comprehensive process to address more than business cases and benefits realization. The process also needed to provide holistic governance mechanisms and ensure stakeholder involvement, business ownership, and goal-alignment across the enterprise. BMO would also need to develop mechanisms that would consistently reinforce these practices at all levels of management. Being good in one of these activities and weak in another would lead to sub-optimal IT investments.

The cross-functional team's IT leader was Dave Revell, then SVP for Corporate Technology Development. He quickly recognized that overcoming the challenges could not be the responsibility of just the IT group. Much of what needed to be done was outside its area of expertise and responsibility. For example, while the IT group could require business cases to be completed, it had no way of holding business owners accountable for delivering benefits from their development projects.

To Revell, it appeared that managing investments and deliverables was a core responsibility of the Finance group and that it should play a stronger role in designing and managing a new IT investment process:

"I pushed for this because we needed it to be managed outside IT ... We could have built this process ourselves [outside] the normal structure of the bank, but I don't believe that it would have worked as well. Typically, these projects engender strong cooperation in the first year, but that support quickly wanes in the second year as partners start to view the process as 'IT's' paperwork." (Dave Revell)

To address this concern, the team formed an IT Investment Steering Committee jointly led by Revell and Cathy Cranston, Executive Vice President of Strategy for BMO Financial Group and its SVP of Financial Strategy (and one of the co-authors of this article). Getting the Finance Group to take the lead was critical to succeeding:

"Our organization is so big that the individual Groups each had their own CEO. Somehow,

we had to get through to the top layer of management at the bank. Each Group also has its own CFO. By having Group CFOs report to BMO's CFO, we were able to bring all the investment decisions together.” (Dave Revell)

As in many organizations, BMO's overall IT spend (i.e., the total IT budget) before ISO was set from the top of the organization and allocated by Groups. Projects were subsequently prioritized within each business silo:

“Before the ISO process was created, we would have prioritization discussions at the Group level but never above that. Now, the Management Committee⁵ gets to review and assess the top enterprise IT projects and have a thoughtful discussion around priorities. In the past, whoever argued the loudest got the IT budget. They weren't necessarily thinking about what was best for the bank as a whole, only about their particular silo.” (Cathy Cranston)

Over the next six months, Cranston, Revell, and a team of hand-picked staff from all parts of the business designed a new approach to IT investment—the Investment Spend Optimization, or ISO, process. The process was in place for the development of the 2008 fiscal year IT plan, which had to be completed by July 2007.

To further develop the new process, an ISO Design Team, reporting to Cranston, was created in March 2007. In June 2007, a member of the design team, Michelle Benson (a co-author of this article), was appointed Director of the ISO Program Management Team (referred to in the rest of this article as “the ISO team”), with responsibility for rolling the process out across the enterprise.

The initial 2007 ISO process was “tough but successful.” The first task was to create an enterprise-level IT budget because there was no mechanism in place for evaluating and funding common enterprise projects. To create this initial budget, all business Groups' IT budgets were cut in half, forcing them to compete for funding from the enterprise pool for their larger discretionary projects. Maintenance and mandatory projects were also funded at the enterprise level, so for the first time, the majority of the IT budget was managed centrally, and projects were prioritized for enterprise value.

In December 2007, the ISO team reported its first working-quarter progress to the company's Management Committee and asked it to support the ISO approach and its recommendation to link the IT development portfolio even more closely with enterprise strategies. With the Management Committee's full commitment, ISO became the new way of managing IT investments at the bank.

THE ISO PROCESS

The ISO process is based on five key principles:

1. Strategic alignment of the IT development portfolio with enterprise objectives.
2. Rigor in the IT planning and business case processes.
3. Accountability for delivering value.
4. Transparency at all levels and stages of development.
5. Collaboration and cross-group synergies.

BMO's vision for ISO is:

“Our holistic view of critical [IT] spend will allow us to direct our resources where they will have the greatest impact while the increased rigor and discipline in business cases and tracking will allow us to invest with confidence. The collaboration among all parts of the enterprise will build strategic partnerships based on trust, with the results surprising and delighting our customers and employees, and amazing our competitors.” (ISO Update, 2009)

To achieve this vision, the ISO team has implemented three inter-related practices:

- A thorough and rigorous method of project categorization and prioritization.
- Comprehensive governance of IT spending and benefits delivery at all levels.
- An annual IT planning process that provides transparency and accountability for all types of IT spending and creates an integrated and strategically aligned development portfolio.

Each of these practices is discussed in detail below.

⁵ The Management Committee is the most senior operating committee of the bank and is chaired by BMO's CEO.

ISO Project Categorization and Prioritization

The ISO process relies heavily on categorizing all IT projects according to type of IT investment. Once categorized, projects are prioritized within each category using common evaluation criteria. The criteria differ somewhat for each category but provide a consistent, comprehensive, and rigorous project assessment framework, including a standard template for business cases. The prioritization within each category balances the quantitative assessment of projects with qualitative business judgment:

“While rigorous and consistent evaluation criteria have been established, the prioritization process also includes opportunities for the bank’s senior managers to exercise their own judgment of the priorities. We have thorough and thoughtful conversations about our IT priorities throughout the process. This never happened before ISO.” (Cathy Cranston)

There are four categories of IT projects.

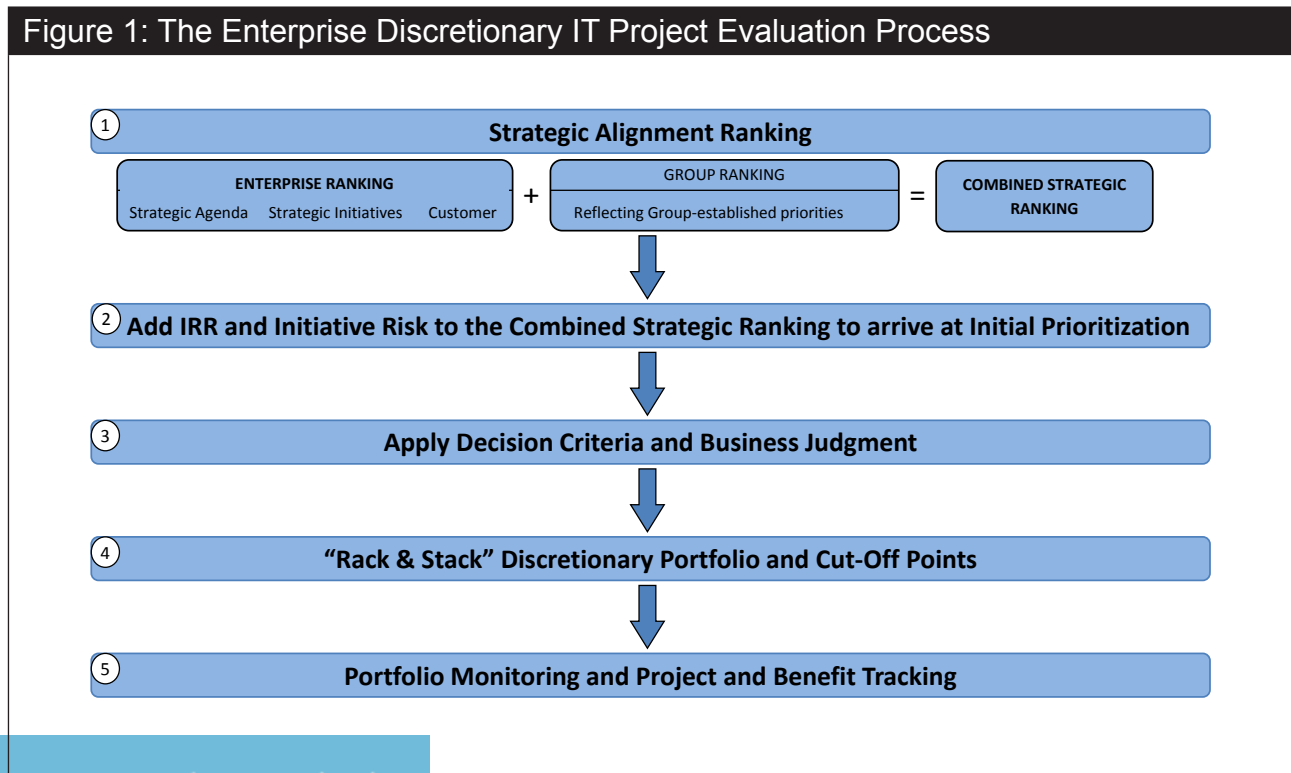
1. Maintenance and Technical Currency. These projects are necessary to keep applications, data, the IT environment, and production data in good order and prevent them becoming obsolete. Technical Currency projects include upgrades enforced by vendors and any upgrades deemed to be non-discretionary for production. Maintenance projects

include work required to “keep the lights on” and development work needed to keep data current, relevant, and useful to the business. This category also covers maintenance performed by external vendors and payment of license fees. Projects in this category are recommended by the IT group based on operational risk factors, such as the company’s critical systems list and vendor-supplied applications that will no longer be supported.

2. Mandatory. Mandatory projects are those that BMO has to do to meet the requirements of its regulators or the boards or associations in which BMO holds membership. This category not only includes initiatives resulting from government legislation or regulations, but also those mandated by the bank’s Board of Directors. Projects are recommended by the business Groups and evaluated by compliance officials who assess each initiative using a model built by the Corporate Risk and Compliance Department to identify each project’s level of risk.

3. Enterprise Discretionary. These are critical discretionary projects costing over \$1.5 million that align with enterprise and Group strategies. Evaluation criteria for these projects are first strategic alignment and then customer impact, financials, risk, and business judgment. A project proposal is submitted by a Group sponsor and then moves through two levels of committee until it is eventually included in the annual IT plan, which is presented to and approved by

Figure 1: The Enterprise Discretionary IT Project Evaluation Process



the Management Committee. Figure 1 illustrates this process and shows how both enterprise and business Group strategic priorities are incorporated into each project's ranking.

First, a combined strategic ranking is determined for a project. This ranking is based on the project's perceived importance to the firm's strategic agenda, strategic initiatives, and impact on the customer, in conjunction with its relative importance to the sponsoring Group (all projects have a primary Group business sponsor). Second, the estimated internal rate of return (IRR) and risk is incorporated to provide an overall score that can provide a priority for each project relative to others. Third, other decision criteria (such as economic conditions) and business judgment are incorporated to create a prioritized list of potential projects. As discussed further below, these criteria are important factors that enable senior management to make holistic spending decisions incorporating both quantitative and qualitative considerations. Once a prioritized list of discretionary projects is developed, a well-informed decision about how much money to spend can then be made.

4. Group Discretionary. These are generally smaller discretionary projects that cost less than \$1.5 million to develop and that align with Group strategies. Priorities are determined by each Group, which has full discretion over these projects, including substitutions of one project for another.

The ISO project categorization and prioritization process results in an integrated list of all projects for each category. This enables the ISO team to create a cross-category portfolio of IT projects that is balanced for risk and in which cross-group synergies are identified. Information gathered through the categorization and prioritization process is entered into a specialized tracking tool, which enables the team to monitor project milestones and benefits over time and oversee the overall project portfolio.

Governance of IT Spending and Benefits Delivery

The ISO governance structure explicitly recognizes that, while it makes sense to prioritize projects within each category, the overall project portfolio also needs to be managed across categories since changes in one project can have cross-category impacts. Governance of the ISO process is both top-down and bottom-up for both spending and benefits delivery, and these two elements are integrated at every level. (The types of benefits that are monitored and tracked by the ISO

process are discussed in the business impact section below.)

BMO's Management Committee, which is chaired by the CEO,⁶ is accountable for the strategic alignment and oversight of the total portfolio (i.e., articulating the context for benefits delivery) and for setting and allocating the total IT budget, and overseeing *all* IT investment plans. As Figure 2 illustrates, as well as setting the overall IT budget, the Management Committee determines the mix of spending by category at the beginning of the fiscal year to ensure that the right projects are selected to deliver the desired benefits.

Other Management Committee responsibilities include:

- Establishing strategic priorities for the Enterprise Discretionary development portfolio.
- Identifying the risk tolerance in each category of investment.
- Approving the final recommended annual IT portfolio.
- Reviewing exceptions, providing tension and control points for escalations from the Enterprise Investment Committee (EIC), and offering guidance to the Groups.

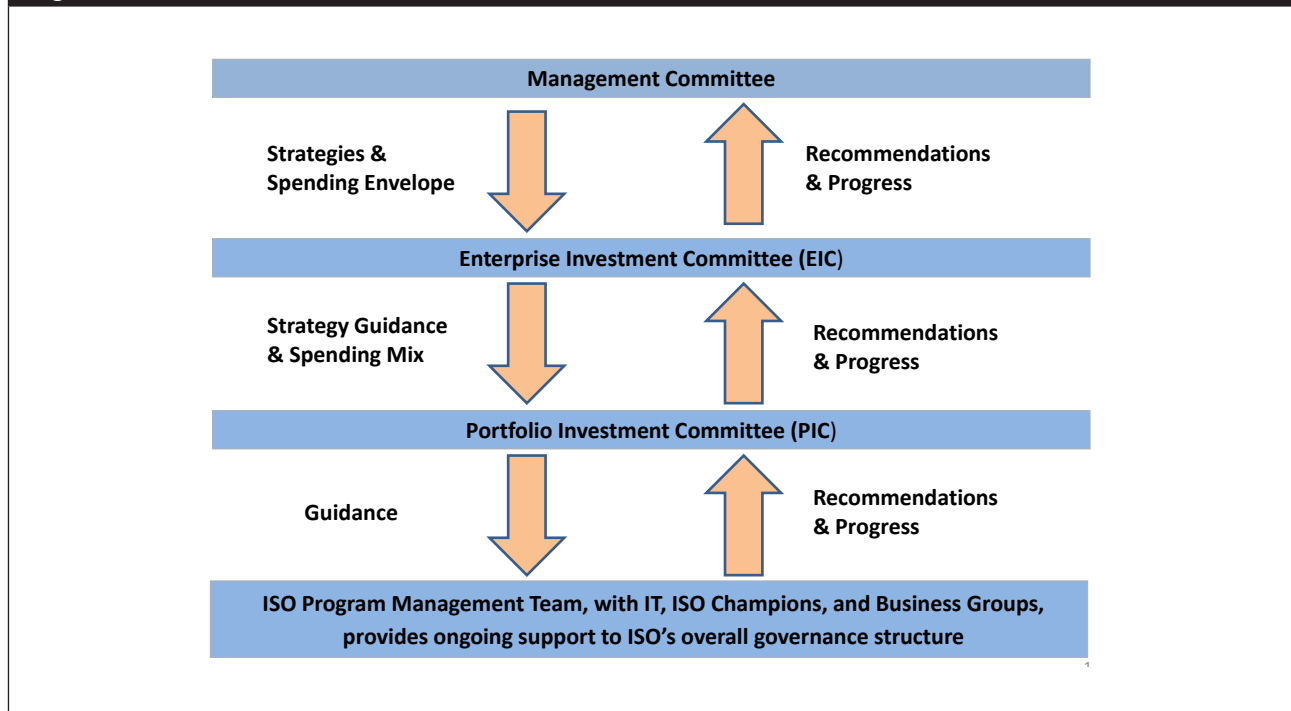
The EIC,⁷ together with the Portfolio Investment Committee (PIC), provides support for the Management Committee. These two subcommittees make recommendations about the project portfolio and manage it throughout the year. The EIC meets quarterly and is responsible for:

- Recommending the total annual IT spend and portfolio mix, and the risk tolerances for each of the development categories (benefits delivery).
- Holding quarterly reviews with subject matter experts to identify emerging enterprise priorities and provide environmental reviews (benefits delivery).

⁶ Other members of the Management Committee include the Chief Risk Officer, CFO, the CIO, CEOs of the four major business Groups (Personal and Commercial Canada, Private Client Group, Personal and Commercial US, and Capital Markets), and the EVPs of Customer Strategies and Marketing, and HR.

⁷ EIC membership includes the CFO (Chair), EVPs of BMO's business Groups, the CIO, the SVP Financial Strategy, the Chief Risk Officer, the Finance EVP, the Corporate and Compliance Group EVP, and the EVP of Office of Strategic Management and Corporate Marketing.

Figure 2: The ISO Process Governance Structure



- Overseeing the development of ongoing enterprise priority initiatives (benefits delivery).

The PIC⁸ is a smaller group that meets regularly to manage the project portfolio on an ongoing basis. It identifies cross-Group and cross-category synergies and makes ongoing portfolio decisions (benefits delivery). Its responsibilities also include approving ongoing substitutions of funds between projects (spending). Because the annual IT plan is developed and approved three to four months in advance, it is natural that business priorities or planned spending can change. The ISO process allows the reallocation of IT resources between projects, but only with approval.

These three committees are supported by the full-time ISO team, which helps facilitate this enterprise-wide process, including developing the annual plan and ongoing portfolio management, and monitoring benefits realization. Benson and her team have a threefold mandate: governance and design of the ISO framework, overseeing ISO operations and managing the process, and change management. The team:

- Manages the schedule and agenda of all committees.

- Vets all business cases (to ensure benefits are clearly articulated).
- Assesses substitutions.
- Provides portfolio analysis and tracking.
- Monitors project reporting and benefits (ensuring that benefits are both on track to be delivered and are actually delivered post-implementation).

It also develops ISO's enabling infrastructure and supports new capability-building within the organization, through training and the development of support tools. The ISO team works with subject matter experts from IT, Risk, Compliance, Finance, and Operations, and with ISO Champions located in each of BMO's Groups.

Within each Group, the first point of contact with the ISO process is the Group ISO Champion. These Champions work with business leaders, Group CFOs, Group Compliance Officers, and Group IT Relationship Managers to ensure new IT project opportunities and mandatory requirements get passed on to the ISO team. Group ISO Champions:

- Coordinate all Enterprise Discretionary and Mandatory business case submissions for annual planning and monthly reviews.
- Educate the business Groups about ISO.
- Identify and escalate issues to the ISO team.

⁸ The PIC comprises the EVP Finance (chair), the EVP of IT, and the SVP of Financial Strategy.

- Coordinate the vetting of Group Discretionary business cases.
- Verify and validate all inputs and updates to the ISO project tracking tool about project milestones and benefits.

Champions also participate in the stage-gating of Group initiatives (see the Ancillary Benefits section below) and manage ISO communications and change-management activities within their Groups:

“ISO Champions are carefully chosen for each Group. They must be credible, well respected, and good at what they do. They are our key sources for feedback about what needs to change and improve about the ISO process.”
(Cathy Cranston)

The Annual ISO Planning Process

The annual ISO planning process begins in the spring for the following fiscal year. The preliminary spend for each project category is established in April based on an initial view of the demand, taking account of:

- Projects carrying over into the following year.
- Feedback from the IT function and business Groups about priorities.
- Significant strategies and pending regulations.
- Estimates of the likely size of the IT budget.

Business cases for all Enterprise Discretionary projects are due in May and are added to the ongoing approved projects from the previous year. Business case submissions for Group Discretionary projects are optional because they are smaller and are funded from the Group’s budget but are being increasingly used by the Groups as an effective means of evaluating their alignment with Group strategies.

By June, the ISO team prepares a preliminary “rack and stack” (i.e., an integrated list by priority) of all proposed projects by category (excluding Group Discretionary). This is a very time- and labor-intensive process for the team, and its counterparts in the IT group, as well as for specialist groups, such as Compliance, which are relied on for their expertise and judgment.

Typically, the integrated list is considerably longer and more costly than the total IT budget allows. For example, in the 2009 plan, initial demand totaled 155% of the IT budget, even though that had been increased for the year by 5.2%. This supply-demand imbalance results both in much negotiation about

how to bring costs down so more critical projects can be included and in multiple discussions with Groups on their priorities to assist them with making important business judgments. In Fiscal 2009, the Maintenance category represented 47% of BMO’s IT budget, with Mandatory projects accounting for 25% and Discretionary projects 28%. In mid-June, following the period of negotiation, the ISO team makes a recommendation for the total development spend by category. In the first two years of using the ISO process, the team created several options for the Discretionary spend by taking the total IT development target budget and subtracting recommended costs of Mandatory and Maintenance projects. The options provided a range of total budget amounts, each of which had slightly different project mixes depending on the organization’s business objectives:

“This year [2010], the organization’s growth and innovation goals are a priority, so we are starting with the Discretionary recommended budget options and working back through Mandatory and Maintenance ... and I am very proud that the ISO process is enabling a very healthy debate within the organization around getting the right balance of securing today while investing for the future.” (Michelle Benson)

However, allocating the Discretionary budget between Enterprise and Group Discretionary projects is still based on judgment:

“The first year, we used a methodology that looked at our historical spend and divided it 40/60 (Group/Enterprise), applying business judgment and to give more to Groups that we strategically wanted to invest in. Last year, we changed the balance to 30/70 (Group/Enterprise) so we could invest more in enterprise priorities, and Group allocations went down proportionately.” (Michelle Benson)

During this part of the planning cycle, Groups are also allowed to “buy up” (i.e., take money) from other parts of their budgets for additional Group Discretionary projects. This can happen only during this part of the planning cycle, as it affects IT resourcing.

The proposed budgets and project lists (excluding Group Discretionary) are then reviewed first by the PIC and then by the EIC. Unlike many prioritization committees in other companies that routinely “rubber

stamp” recommendations, both committees’ meetings are characterized by “healthy conversations” about IT spending and the spending and risk options presented. All the top Enterprise Discretionary projects, including those that are below the proposed spending cut off, are outlined, including their relationship to the bank’s strategic priorities. According to Cranston, this has been particularly important during the economic challenges of the past two planning cycles (i.e., 2009 and 2010) and has enabled business leaders to more closely guide how much they spend on IT and where it is spent. Much of the debate focuses on where to draw the spending line:

“It’s important to apply business judgment to the rack and stack. We’re finance, not business people, and we need their input.” (Cathy Cranston)

“This is a great process. It’s not me saying the budget can’t be cut but the business debating what it wants. This is a much easier discussion from an IT point of view.” (Dave Revell)

Once everyone’s input has been incorporated, the Management Committee approves the final development spend in early July.

During the course of the following year, the ISO team oversees the progress of critical projects and the overall portfolio. Project status and performance against schedule and budget, and benefits delivered, are reported quarterly to the PIC.

Ideas and opportunities can initially be approved with general estimates and benefits, but as they are developed (typically after 10% to 25% of the funding has been spent), business cases must be redeveloped by the project sponsors and re-vetted by the ISO team. If there are key changes in milestones or projected benefits, a project must be reviewed by the PIC and EIC to ensure it should still go forward.

As noted above, managing substitutions within each category is an ongoing challenge for the ISO team. Groups and IT managers have some ability to substitute resources between projects in the Group and Maintenance categories, but all large substitutions or those in the Enterprise Discretionary or Mandatory portfolios are managed by the ISO team.

BUSINESS IMPACT OF ISO

There have been significant qualitative and quantitative benefits in the first two years of using the ISO process. The qualitative benefits flow from ISO’s

impact on behaviors, perceptions, and attitudes, and quantitative benefits are measured in terms of ISO’s financial impacts. There have also been some ancillary benefits, which have derived from implementing the ISO process.

Qualitative Benefits

There is widespread agreement at BMO that ISO’s consistent rigor has led to improved alignment of the development portfolio with enterprise strategic priorities and to better decisions about IT spending:

“The discipline of this process has really helped us gather the information we need to make informed, risk-based decisions. Before ISO, almost every single project claimed it was Mandatory. Now, with the risk modeling we do, we can identify the key Mandatory projects by better understanding the scope and impact of what’s involved.” (Joann Sochor, Vice President of Corporate Compliance)

Using a standard template for business cases enables comparisons across projects and Groups, more effective relative prioritization, and a balancing of risks between IT investment categories. The rigor of the business case process has also resulted in more accurate cost estimates, benefits quantification, and risk assessments. The standard business case template ensures that no project is approved without this basic information and without a project owner and key stakeholders being involved.

Because IT staff and the business are collaboratively improving their skills, they now make better decisions for the enterprise. As a result, there is increased clarity in the decision-making process and new business opportunities are becoming clearer:

“We are learning together where and how to make tactical versus strategic decisions. IT is also learning much more about risk management through the templates that have been created and understanding why the business cares about certain things. In turn, the business is learning about the difficulties of working with siloed information.” (Dave Revell)

“While we have no record of how we made decisions before ISO, I believe we are making better decisions because we are making more conscious decisions about how to spend our IT dollars and where we’re spending them, and we know which projects are aligned with which enterprise strategy.” (Cathy Cranston)

Figure 3: Both IT Staff and Business Leaders Believe ISO Has Improved IT Spending Decisions

- *“We now have clear criteria for making decisions. Before, we made choices based on a ‘gut check.’”* (Brenda Ha, Senior Manager of Development Portfolio Services in IT)
- *“ISO has absolutely engaged everyone in making IT decisions. We’re having much more meaty discussions. Before, we were just told to ‘whack 20% off the Maintenance budget.’ Now we can tell the business what they’re giving up as a result.”* (Nimesh Patel, EVP of Enterprise Infrastructure)
- *“This process has been revolutionary. In the past, if a Group was doing well, it would spend more on IT. Now, we invest in the top priorities for the bank.”* (Ellen Liu, a Senior VP in IT)
- *“ISO has been very beneficial. The gain was definitely worth the pain. Now, we have a clear plan and see the choices that we need to make.”* (Cindy Ulrich, Senior Vice President, Harris Bank)
- *“ISO is a central forum for us to understand business needs and regulatory issues. We can now see the big picture. It’s very powerful. We have better discussions, and there’s more focus on Mandatory projects.”* (Joann Sochor)
- *“While [ISO has] been frustrating to implement, IT decisions are definitely made more seriously. There are fewer crazy numbers.”* (Doug Williamson, ISO Champion for BMO’s Private Client Group)

Figure 3 provides examples of how both IT staff and business leaders believe that decision making on IT spending has improved at BMO.

ISO is also helping to make IT more credible with the business:

“In the past, when projects went off track, both business and IT tended to point fingers at each other. Now, ISO staff are middle men and the process’s transparency helps us to identify problems earlier and create trust on both sides.” (Michelle Benson)

“Because of a lack of transparency about its spending in the past, IT was its own worst enemy. The business thought IT was pulling the wool over its eyes. Now, every time we go through this process, things get clearer.” (Cathy Cranston)

However, Cranston admits she still isn’t happy with the transparency of Maintenance spending. She regularly gets calls from business people complaining that the IT group is doing maintenance on things that aren’t important to the business:

“We still have a legitimate communication issue around maintenance. We really don’t know where the money’s going here.” (Cathy Cranston)

But she does now have much more empathy for the work the IT group does. Before she got involved with ISO, she was its harshest critic. Revell also believes that ISO has changed the behavior of the business very positively:

“When more business people are involved in making IT investment decisions, there’s much better understanding about what needs to be done. It’s had less of an impact on IT behavior because we basically still have to do the same things we’ve always done. And although there’s more paperwork, there’s also greater transparency.” (Dave Revell)

A Group IT Relationship Manager concurred:

“There’s a changed attitude in the business. They used to be very blasé about benefits, trying to find the ‘magic number’ to get them approved. Now, they’re much more circumspect because they know they’ll be asked for their progress. [ISO] has changed a lot of stupid behavior. There are no internal customers anymore. We’re all partners.” (Roger Boyd, IT Relationship Manager, Personal and Commercial Banking Group)

Business ownership is much more visible and accountable under ISO. Every project must have an owner, whether from an individual sponsoring Group or from the enterprise:

“We had a culture of over-promising benefits because there were no consequences for under-delivery.” (Doug Williamson)

Now that the ISO team tracks and reports all benefits delivered, this is no longer happening. Furthermore, in the past, no one “owned” enterprise initiatives. With ISO, if the Management Committee says a project is important, a senior executive is appointed as sponsor

to take responsibility for its implementation and benefits:

“We’ve seen this particularly with Mandatory projects. Formerly, no one was accountable for the overall costs and impact of these types of initiatives. Now, each one has an owner.” (Cathy Cranston)

ISO also provides the IT group with more strategic flexibility on how its resources are deployed:

“Previously, each [business] Group had an IT team associated with it. Bigger Groups had bigger teams. Now, with our planning, we can help Groups that need to grow get more resources from IT. When ISO started, there was conceptual agreement from the Groups, but it got tough when some Groups got fewer resources than they had in the past.” (Dave Revell)

On the other hand, some smaller Groups have benefited from the ISO process:

“We’ve ended up with much more Discretionary IT budget. The process has removed the cost of our Mandatory and Maintenance projects from our Group IT budget, and we actually now have some Discretionary IT dollars to spend.” (Cindy Ulrich)

Quantitative Business Value

In addition to changing behaviors and attitudes in IT planning and spending, ISO is also generating quantifiable business value. This is being achieved in the following five ways.

1. Through the ISO Process. A key benefit of the ISO process is an improved understanding and transparency of the bank’s IT spending practices and estimating trends. For example, the process revealed that a significant amount of money was being allocated annually as “placeholders” for Mandatory work. A placeholder is money that the business knows it will have to spend on new regulatory requirements resulting from legislation but the details of which are not available during planning. Analysis showed that this money was not always spent because the regulations weren’t implemented as expected. For Fiscal 2009, placeholders were reduced and the funds released for other IT projects.

The ISO team’s goal is to generate \$20 million of benefits annually. In 2009, \$5 million of these were achieved in the first quarter, primarily through

improved vetting of business cases and portfolio management activities. These included:

- Removing unnecessary spending.
- Recapturing under-spent funds.
- Not approving additional funding for a project that vetting demonstrated was not necessary.

At the end of the second quarter, the ISO team had generated \$18 million in benefits and expected to generate significantly more during the next quarter.

2. Through Tracking the Benefits of New Projects.

Benefits monitoring is based on a project’s high-level work plan—that is, the major milestones to be achieved and the impacts that will occur as a result. Work plan owners are responsible for updating milestone dates and benefits after each project stage. Benefits fall into one of three categories: financial impacts, headcount impact, and impact on operational key performance indicators (KPIs). KPIs can be leading or lagging. A leading indicator is a measure that provides some degree of confirmation of an initiative’s progress, benefits, or costs prior to its completion. These KPIs are usually non-financial in nature but have a strong positive correlation with an initiative’s overall success measures. Examples include:

- Timely milestone completion.
- Percentage of sales people trained.
- Number of joint sales calls with key customers.

A lagging indicator demonstrates progress towards an initiative’s overall objectives after its completion. These KPIs are usually financial amounts or customer scores, such as revenue realized or customer satisfaction. The ISO team provides considerable guidance on how to develop both these types of indicators.

Benefits are tracked quarterly and reported to the PIC. In June 2009, critical Discretionary project benefits were on track to deliver \$170 million for Fiscal 2009. In Fiscal 2008, Enterprise Discretionary projects delivered \$99 million in benefits:

“After only two years, it’s too early to calculate IRR on these projects or their impact on profits, but we know exactly how they are tracking.” (Cathy Cranston)

3. Through Synergies. A key benefit of the ISO process is its ability to identify commonalities

between projects and to prevent “reinventing the wheel.” Synergies are especially important for Mandatory projects, which tend not to have many intrinsic benefits and are thus a significant cost to the bank. For example, one piece of new legislation led the business Groups to identify 18 separate Mandatory projects all related to the same legislation. These projects were flagged and combined into one large Enterprise Mandatory initiative. This combined project will not only eliminate duplicated development costs, it will also be better aligned with the future IT architecture than if each Group had gone ahead with its own project. By removing this initiative from the individual Groups, the bank will get a more integrated and effective capability for meeting the requirements of this legislation:

“There are huge benefits to being able to pull together all the information needed to meet new regulations and to look across the enterprise to see if there is other value to be gained. And in some cases, Mandatory projects can even help us do business better.” (Joann Sochor)

The ISO process also enables technology synergies to be identified and implemented more easily. While these might have been identified previously, the bank was not always taking advantage of them. Now, the ISO team, in partnership with the IT group, provides a way to value and capture these types of synergies.

4. Through Better Demand Management.

“What I love about ISO is that we have a much more holistic view of demands on IT, rather than a silo view. This helps us do better capacity planning and resource management and to renegotiate material changes (e.g., volume discounts) with vendors.” (Nimesh Patel)

ISO also provides IT with consistent criteria to prioritize its Maintenance and Technology Currency budget more effectively for the most critical issues (e.g., customer-facing problems or situations where vendors will charge for extended support):

“I am actually the client for our Maintenance budget. Through this process I can now have a clear, holistic, risk-oriented discussion within IT about what needs to be done.” (Nimesh Patel)

5. Through Track Records of Delivering IT Value. Measuring how well different business leaders deliver IT value hasn’t yet happened because it’s still too early in the life of the ISO process to determine track

records. However, Cranston has no doubt that with the tools she has in place, these people will soon be identified. Once they are, it will be the people who can deliver who get the money.

Ancillary Benefits

The ISO process has resulted in the following two important ancillary benefits, both of which provide BMO with additional value for its IT spending.

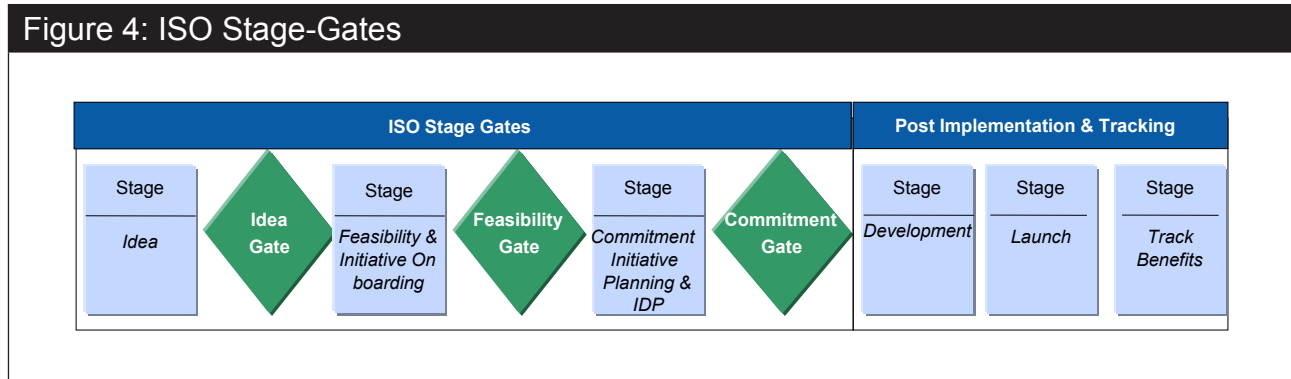
1. Coordination with the Enterprise Technology Framework (ETF). The ETF includes strategic IT roadmaps for each of the bank’s Groups as well as an enterprise view of the bank’s overall technology strategy. Introduced in 2008, the ETF has become an essential component of the ISO process. It is now used to make strategic decisions on the type of technologies the bank should be investing in during the business-case preparation process. Business cases are assessed for their alignment to IT strategies and their contribution to building the target technology state at the bank. Technologies are also assessed for their enterprise-wide applicability and for synergies with the Maintenance and Mandatory portfolios. These assessments identify new opportunities and generate recommendations to continue, delay, or stop initiatives. They also highlights gaps where submissions do not align with strategies or target states:

“The ETF addresses a huge need that didn’t become important to the business until ISO.”
(Cathy Cranston)

2. Support for Innovation. Many companies use stage-gates as decision points, and the ISO process has adapted this concept to support innovative new ideas, while still maintaining control over costs and benefits. As Figure 4 illustrates, there are three ISO stage-gates, each requiring greater specificity on business value.

The Idea Gate enables an initiative owner with a potentially good idea to engage key stakeholders to scope and document a preliminary business case based on their “best guess.” Preliminary funding can be obtained on this basis. This prevents innovative opportunities from being given lower priority because the value isn’t clear, as frequently happens in other prioritization schemes. As projects pass through the next two stage-gates—Feasibility and Commitment—owners are required to update their projects’ business cases to reflect increasingly more accurate costs, benefits, and timelines.

Figure 4: ISO Stage-Gates



After the Commitment Gate, a project’s work plan is finalized and used by the ISO team to monitor milestones, costs, and delivered benefits. Business owners are held accountable for the project through ISO team reports to the PIC, EIC, and Management Committee on the delivery of both the project and its benefits. Thus ISO’s stage-gating approach both encourages innovation and ensures that no project is implemented without being able to deliver real business value.

Change Management

As might be expected, the introduction of ISO has resulted in massive change at BMO. Two years after being introduced, there is a feeling that the company is in transition between paradigms:

“The change management part of ISO has been massive. We’ve significantly centralized IT decision making in order to deal with siloed thinking in the business. Getting these managers on board with the process was extremely difficult. Many of these leaders still struggle with having so much of their decision-making authority removed.” (Cathy Cranston)

Initially, the ISO team expected and received a lot of “pushback” on the process, but endorsement from the Management Committee has been critical to its success over the past two years.

The ISO process is often perceived by the business as being paperwork-heavy, and those involved with ISO know there’s room for improvement and that it is important to listen to the business’s concerns:

“We’ve put a lot of thought into the process and got it about 80% right, but we’re actively seeking feedback all the time.” (Cathy Cranston)

Indeed, annual post-mortems with the ISO Champions have been built into the planning process, and these

are tough, no-holds-barred sessions. Benson also works continually with the ISO Champions to identify what is working and what isn’t.

The ISO team recognizes that the process requires significant changes in the business. Although the ISO Champions play a key linkage role in helping each business Group maneuver through the process, the ISO team has taken several change-management initiatives. For example, it holds ISO workshops, information sessions, and “annual plan road shows” to communicate the process and its benefits, highlight new features, and train staff in how to use the tools.

The team has developed or adapted several tools to support the ISO process and to assist both business and IT people in providing useful and accurate data. A big early win was the creation of a standard business case template. In 2009, the team introduced a “Business Casing 101” workshop and has trained over 200 people. This includes assistance with identifying KPIs. Standard worksheets have also been developed to assist staff in identifying and scoping Mandatory projects.

REMAINING CHALLENGES

While the ISO process has been a major success in linking IT spending to enterprise and Group priorities, there are still many challenges to address. Maintenance is the biggest single issue at present for the ISO team. This category of IT spend is very much a “black box” as far as the business is concerned, which still considers it to be too opaque. Given that Maintenance projects consume just under 50% of the IT development budget, there is considerable interest in managing these costs better and, hopefully, down:

“Maintenance is a huge topic in the 2010 annual plan. We continue to work on this to build understanding in the organization.” (Michelle Benson)

The ISO team monitors trends in the Maintenance portfolio, and it continually challenges the IT group to do more with less. For example, the IT group managed to come in under budget by \$17 million in this area in 2008 through productivity initiatives. Nevertheless, more still needs to be done:

“We only seem to add systems and rarely retire any, so our maintenance bills continue to grow. [But] as we bring more and more transparency to Maintenance, the businesses are engaging and want to partner with IT to identify opportunities to retire old and under-used systems.” (Michelle Benson)

The IT group believes it can gradually reduce the Maintenance budget through improved attention to Technology Currency and integration of new projects with the ETF:

“The ETF is designed to help create a long-term vision for our technology capabilities and architecture so we can start bringing Maintenance expenses down.” (Nimesh Patel)

From the IT group’s perspective, the biggest Maintenance challenge involves getting the business to recognize the total cost of ownership, not simply the cost of development:

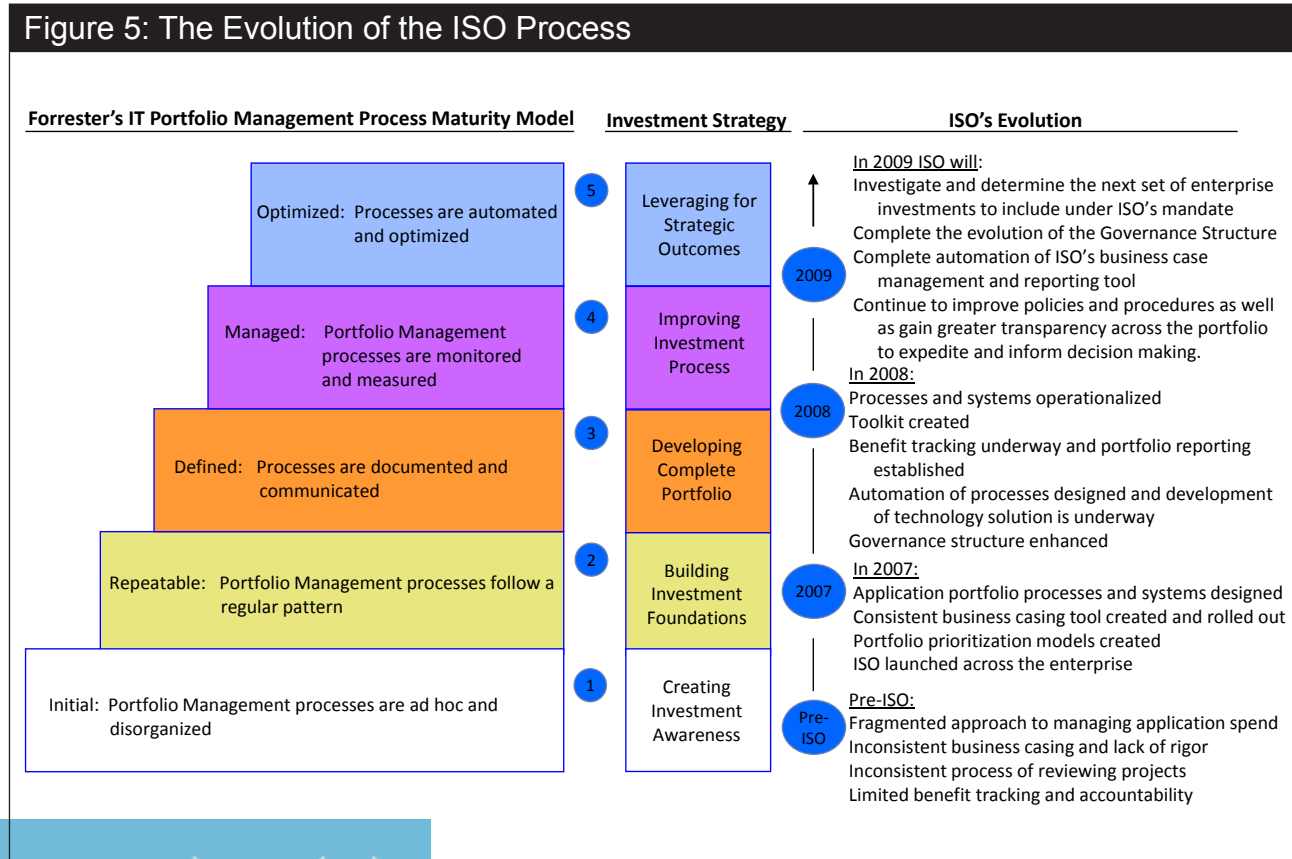
“We still don’t have a full cost view of our IT initiatives. We’re still at the early stages of this, but at least we’re engaged in the process much earlier than before. As good as ISO is, people tend to forget about the costs of Maintenance.” (Nimesh Patel)

A second challenge is managing the ever-greater complexity of the ISO process. As ISO evolves and involves more types of spending and becomes more rigorous, complexity will continue to grow. There is therefore an increasing need to develop an integrated portfolio management system. At present, though, tool development doesn’t have a high priority:

“We are spending a lot of time maintaining the details, and we’re just scraping by with our existing tools.” (Michelle Benson)

ISO EVOLUTION

Since its inception in mid-2007, the ISO team has continually monitored the ISO process and worked to evolve it and make it more effective. As Figure 5 shows, it has made considerable progress moving up the Portfolio Management Maturity Model.



In addition, the team is determining how best to evolve and extend the process further. The following three areas are under consideration.

1. Addressing Operational Risk Projects. These are projects relating to process risk arising from a breakdown in processes or transaction controls. Typically, these projects are not strategic and any financial benefits are not usually enough to justify the costs of the project. For example, a company might be using spreadsheets to run core parts of its business, and the main business case for automating the process is to eliminate human error. Based on current ISO prioritization criteria, these projects tend to fall to the bottom of the list unless business judgment is used to elevate them.

Initially, operational risk projects were viewed as smaller projects that could be put into the Group Discretionary category (which is an appropriate place for “run the bank” type projects). However, in the 2010 annual plan process, several large projects of this type were identified and requested, so there is a need to reassess how ISO handles these types of projects.

The question the ISO team is now asking: Is ISO designed intentionally to focus mainly on growth projects in its Discretionary IT budget and not on projects that help maintain or run the business? If so, then its design is appropriate. If not, then another category of IT investment might need to be added for investments that are large and fall into the Enterprise category.

2. Extending ISO to Non-Technology Investments. The ISO team is currently planning how and where the ISO process can best be extended to other types of spending across the organization:

“We’ve proven this process works. Now, we’re ready to go to the next step and extend it to other strategic investments with an integrated rack and stack.” (Cathy Cranston)

The three criteria being used for this planning are:

- Where can ISO have the biggest financial impact?
- Where can the transparency embedded in ISO have the greatest value?
- How easy would it be to integrate existing processes with ISO reporting?

3. Continually Improving the ISO Process. To address concerns that the ISO process is paperwork-heavy and doesn’t leave enough control in the hands

of individual managers, the IT group (in partnership with the ISO team) is looking at applying Six Sigma methods to improve it. To reduce the angst of the annual planning process, rolling forecasts are being explored as well:

“Planning nine months out is a moving target. We need to move to a rolling plan so we can start working even more strategically.”
(Nimesh Patel)

“We also need to find ways to support process improvement throughout the bank. ISO must ensure it supports activities aimed at making decisions faster and simplifying processes.”
(Michelle Benson)

LESSONS LEARNED

The academic authors of this article believe that the demonstrated success of the ISO initiative at BMO is attributable to three significant factors: the comprehensiveness of ISO, its focus on benefits, and the critical role played by the finance organization. These three factors constitute a set of transferable lessons learned for other organizations.

1. Comprehensiveness of the ISO Initiative

The comprehensiveness of the overall effort and the fact that BMO took an end-to-end as well as a top-to-bottom approach were fundamental to the success of ISO. Much diligence is required when introducing new procedures that challenge the status quo. IT investments were examined from every angle (e.g., governance, involvement/ownership of key stakeholders, accountability) across the enterprise to expose any practice or policy that might inhibit the ISO goals being attained. Without this, it is doubtful that the ISO initiative would have had the same impact. Experience has shown repeatedly that organizational transformations, without constant vigilance and continuing support and reinforcement, have a tendency to run out of steam.

2. A Focus on Benefits

BMO decided that it needed a sharper focus on the benefits of its IT investments if it was to optimize them. Its experience shows that, while the design specifications of a project became increasingly detailed at each successive stage of the development life cycle, benefits were not receiving similar scrutiny and refinement. To correct this, BMO created a

process to stage-gate benefits in parallel to design specifications. This ensured that, when a project reached the Commitment gate, the business was as confident of (and committed to) the benefits as it was of the technical design.

When a project passes the Commitment gate, the projected benefits are “set in concrete” and loaded into the tracking tool so that they can be monitored, starting with system installation and continuing for the next three years. Being held accountable for these benefits fully engages business managers in articulating benefits as well as enacting the business process changes required to realize the benefits. Unless and until the benefits are actually realized, tracking projects in terms of time, budget, and specifications delivered remains “necessary but insufficient.” It was the combination of gating the benefits and subsequently tracking them post-implementation that produced the investment behavior and culture that BMO was seeking.

3. The Role of the Finance Organization

The finance department partnered with the IT organization to support the ISO initiative from its inception. It provided resources and oversight but, most importantly, it was its credibility and expertise that benefited the ISO initiative in three key ways:

- The finance organization revamped how business cases were prepared across the enterprise by establishing standard templates and providing training to business managers in how to build more thorough business cases.
- It worked with managers, primarily through the ISO Champions, to articulate benefits in meaningful terms—not necessarily always financial terms.
- As a result of the first two activities, the finance organization can now validate the accuracy of the financial projections embedded within the annual IT plan, thus relieving the CIO of these duties.

Perhaps the greatest tribute to the success of the ISO initiative is the fact that BMO is planning to roll out the process for other strategic non-IT investments.

GUIDELINES FOR OTHER ORGANIZATIONS

There are five key guidelines arising from BMO’s ISO initiative that can be used by other organizations and

CIOs for creating a new approach to making better IT investment decisions.

1. Establish Clear Business Accountabilities

While IT can deliver new technology, the business must first articulate the benefits and, second, take responsibility for the process, people, and organizational changes required to produce the benefits. In many organizations, the delineation of duties and accountabilities between the IT organization and the business leaves gray areas that result in dysfunctional behavior (e.g., finger pointing, missed opportunities, exaggerated benefits, and under-realized benefits).⁹

2. Establish a Three-Way Partnership Between IT, Business, and Finance

For years, IT organizations have worked to build a successful two-way relationship with the business, mainly through alignment. BMO realized that alignment between IT and the business was a “necessary but not sufficient” condition. Its experience shows that successful IT investments require a three-way partnership where the IT function takes ownership of the technology, the business takes ownership of the organizational transformation, and finance takes stewardship of the benefits. The reason is straightforward: both IT and the business are motivated to obtain funding for new IT initiatives (and are therefore positively biased) yet both lack the credibility and the expertise of the finance function. When finance ratifies the business cases, oversees budgeting, and monitors the realization of downstream benefits, better IT investment decisions result.

3. Enable Enterprise Decision Making

Delegating IT investment decisions to lines of business (LOBs) works against enterprise-wide strategies. At BMO, all major IT investments are now scrutinized by executive-level enterprise decision makers. There is a wide range of benefits from elevating many IT investment decisions to the executive level:

⁹ The need to assign clear accountabilities and responsibilities is paramount. See Peppard, J., Ward, J., and Daniel, E. “Managing the Realization of Business Benefits from IT Investments,” *MIS Quarterly Executive* (6:1), 2007, pp. 1-11. This article describes a “benefits dependency network” that links the “ends” (i.e., overall objectives and benefits) with the “ways” (i.e., the necessary business changes) and the “means” (i.e., the IT capabilities) to realize benefits. It also outlines how accountabilities should be assigned.

- Requests for funding for LOB applications compete with applications in other LOBs.
- Decisions are transparent across the organization.
- Common standards for business cases are implemented and enforced for all IT investments.
- Disparity between large and small LOBs is lessened.
- Common systems are identified.
- The dictates of enterprise architecture can be enforced.
- Demand management across the enterprise is enabled.

4. Make the IT Organization More Transparent

Even at BMO, where the IT organization was recognized as advanced and mature, the relationship between IT and the business still had room for improvement—indeed dramatic improvement. Through the successful implementation of the ISO initiative, BMO made the IT organization much more transparent to the business and less of a “black box.” Now business managers better understand the role of the IT organization, how it supports critical business activities and the impact this partnership has on the welfare of the overall organization. IT investments are now driven by the business and these investments can be justified in terms of anticipated business outcomes which are actively monitored.

The only technology decisions with less transparency are in the Maintenance and Technology Currency category, and these, logically enough, are being increasingly challenged by business executives. This challenge is seen as positive as it reveals a determination by business executives to become more engaged in technology decisions—even Technology Currency decisions. Over time, the goal is for these decisions to have the same transparency and involvement by the business as the ISO initiative has produced for the other IT investments at BMO.

5. Create a Deliberate Strategy for Innovation

Some fear that holding managers directly accountable for IT benefits causes them to favor projects with immediate, quantifiable results, and thus inhibits innovation and experimentation. At BMO, the concern that innovative ideas might become stifled

was identified early in the ISO process and addressed directly.

BMO’s strategy had two main components. First, it introduced the Idea gate. This was done deliberately to ensure that resources were in place to support innovation at the early stages—to delay the need to demonstrate benefits for innovative ideas until the idea has had a chance to be explored. Second, a key part of the ISO Champion role is to work closely with business managers to help shape their project ideas and nurture innovation. Selecting ISO Champions on the basis of their established credibility with the business enables them to play an instrumental role in fostering innovation.

The specific strategy an organization adopts to encourage innovation will be in part dictated by the established culture of the organization regarding innovation. IT innovation practices must not only respect this culture, but find ways to leverage it effectively.

CONCLUDING COMMENTS

This in-depth account of the ISO process at BMO Financial Group details the challenges of attempting to enhance IT investment decisions at a large and complex organization. At a high level, the BMO experience offers evidence that a disciplined, business-driven, enterprise-wide approach to evaluating IT investments has the potential to generate considerable value. We have every expectation that this would also hold true at other large organizations.

APPENDIX: RESEARCH METHODOLOGY

To learn about the ISO process, the academic authors conducted multiple onsite, offsite, and telephone interviews with key IT and business executives at BMO Financial Group during May–June 2009. In addition, the bank provided full access to all relevant current planning and archival information about the ISO process. This included presentations, minutes from planning meetings at all levels, background documents, training materials, and templates. At the time of this research, the ISO process had been through two full planning cycles for IT investment (i.e., for 2008 and 2009), and planning for the 2010 fiscal year was well underway.

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