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IT Portfolio Management: Waste Reduction in Three Dimensions

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For IT portfolio management, optimizing value for the time and money spent goes beyond the cost-benefit analysis of individual investments to put these investments in the context of balanced objectives — and of which have the best chance (given risk) of providing returns.

Key Findings

- Prioritizing "like against like" within relevant categories of IT is an effective method of dealing with excess demand for the IT resource.
- Infrastructure assets may be categorized by vendor risk and whether the product is core, discretionary or experimental.
- Uncontrolled, unarchitected application portfolios often result in the greatest levels of unplanned IT "waste."
- Project risk monitoring can focus attention on known risks, but master project managers are also acutely sensitive to unexpectedly emerging risks.

Recommendations

- If the business side has abdicated its responsibility to provide investment guidance, IT leaders must be persistent — perhaps offering a list of often-mentioned business drivers from which business management chooses and prioritizes.
- To understand the importance of individual assets to each other — and, especially, to business drivers — track asset costs in a database in enough detail. This is a prerequisite to better aligning IT investments with business goals.
- Link the PMO's project chartering coordination with the enterprise architecture (EA) board's architecture review, methodology guidance and application strategies.

ANALYSIS

The economic recession has brought into sharp focus the shortcomings in management technique in IT organizations that, for years, have largely managed application support and project delivery on a "first-in, first-out" basis. Lacking effective workforce planning and accurate productivity gauges, IT management has often relied on reactive staff augmentation and ad hoc use of costly contractors to add skills and capacity to handle excess demand and urgent needs. But, as enterprise IT portfolios grew dramatically during the past 20 years, simply managing queues of requests and projects in order became increasingly out of sync with business priorities — and even "wasteful," in the "lean management" sense, because many requests and even projects provided little or no value to customers at the end of the value stream.

Meanwhile, over time, IT has become more critical to customer-facing activity and running internal business processes. These forces, now magnified by the recessionary pressure of the past year, have created a feeling of a virtual crisis situation in many IT organizations that feel they cannot balance the demands — competing and even conflicting — being placed on them, particularly because, in recessionary circumstances, they often cannot use the contractor and staff augmentation option.

As a consequence, more and more IT leaders are borrowing from the investment discipline of portfolio management to help them prioritize investments in technology. Different categories of IT investment address different levels of business need. Investors must weigh many opportunities — but they don't prioritize every opportunity against every other opportunity. An investment portfolio manager, for example, would not compare an investment in a Dutch windmill manufacturer against tax-free bonds from the Swiss government. Instead, given the fund's rapid growth vs. risk reduction goals, he would decide what weight to give the major investment categories, then prioritize within them by choosing those with the best-fitting value and risk profiles. Proportions of total investment would be allocated to different investment vehicles (for example, stocks, bonds and real estate). Risk should be hedged by investing a target proportion in multiple business sectors (for example, consumer electronic, travel and entertainment, and energy).

This notion of "like against like" within relevant categories has become a means of dealing with excess demand. Time and cost tracking provides visibility into which areas are crowding out investments at intended levels in other areas. Different elements of the IT portfolio investment include general areas, such as infrastructure assets, legacy applications and innovative new projects, perhaps by department or division. Analogous to business sectors might be an enterprise's main strategic objectives, such as improving process efficiency, reaching new markets and reducing enterprise risk.

Similarly, the expected return from much IT portfolio spending on infrastructure upgrades for process efficiency shouldn't be weighed against higher-risk software project spending for reaching new markets, for example. Investments in the various categories of IT should be weighed against other investment options in the category, not those extrinsic to it, according to business alignment, just as various Swiss bond opportunities shouldn't be weighed against high-risk stocks.

Align With What?

Most IT leaders we speak with accept the portfolio framework as previously described. However, few have received an articulation of the enterprise's specific strategic objectives (as distinct from a mission statement) from the business side, much less their relative weight; nor have they much guidance as to acceptable levels of risk in different areas (for example, application development projects).

Without such an articulation, demonstrating the alignment of IT to business objectives is obviously impossible. With it, comparing actual spending in different categories of IT to the weighted business drivers articulated by the business side can lead to adjustments to the "portfolio" of IT investments.

In IT portfolios, the costs and fluctuations in alignment of portfolio elements like applications, infrastructure and projects are not as easily visible as they are in investment portfolios (where the prices and price fluctuations of stocks and bonds can be closely tracked); nor are they as liquid. The proportion of an investor's portfolio made up by, for example, alternative energy stocks vs. tax-free bonds is clear. If fluctuations push those proportions out of whack — for example, when in a rising market, stocks become a third, not just a quarter, of the portfolio — then some trading can restore the intended alignment. Some adjustments take longer than others, such as divesting real estate.

If IT management is to adjust and maintain portfolio alignment, then it needs more than procedures to capture cost data. IT management must understand the investment categories and weights — derived from enterprise strategies and business drivers — with which to align the data. In situations where the business has not provided guidance, IT has a right — indeed an obligation — to extract such guidance (rather than suffer criticism for "nonalignment"). If the business side has abdicated its responsibility to provide investment guidance, then IT leaders must be persistent, perhaps offering a list of often-mentioned business drivers from which business management chooses and prioritizes.

With good guidance as to business drivers and the weight of different IT investment categories, IT may track actual spending and find discrepancies; for example, spending on software projects to reach new markets may be far below the category's intended weight. This may be true even with an ideal project-ranking process, if there were too few qualified software ideas for new markets in the first place. This is not what the enterprise wants. Once areas of misalignment are identified, addressing them is often straightforward. Perhaps a simple shortage of good project proposals can be addressed by a focused brainstorming event. Then, with tracking processes and tools in place, progress toward better alignment can be documented over time.

Three Dimensions of IT Portfolio Management: Infrastructure, Applications and Projects

The greatest area of costs in an IT portfolio is generally in providing the necessary infrastructure to "keep the lights on." Efficient management of the infrastructure — vigilantly targeting waste — involves contract management, lease management, software license compliance, inventory management, granular cost capture and the coordination of cross-organizational cost information. An asset portfolio manager carefully plans for infrastructure acquisitions and upgrades with a focus on leveraging asset data to better negotiate with the technology providers that drive costs.

Assets should be categorized according to the level of vendor risk and whether the product is core, discretionary or experimental in sustaining basic IT services. Such categorization will help in the quick, accurate identification of where cuts can be safely made during tight budget periods. Aggregating asset data enables improved cost modeling of new projects, potentially helping reduce overall costs (for example, through the more-informed negotiation of forward-looking contracts), but also boosting the accuracy of project cost estimates and, thereby, IT's credibility. Project charters can include estimates of ongoing resource requirements and acceptance of chargeback levels at project inception, rather than trying to manage the effects after the project has been closed out.

Keeping asset data in a central database is fundamental to portfolio management, so that asset portfolio management can take a more structured approach. To understand the importance of

individual assets to each other — and, especially, to business drivers — asset costs must be kept at a sufficiently detailed level in a database. A critical component of this process is capturing asset data into a central repository. Once the data is captured, IT organizations can use demand-driven chargeback metrics to ensure that lines of business incur costs that are aligned with the decisions that drive IT costs. Through maintaining the relationships in an asset repository, these different views of assets can be readily developed; for example, an infrastructure product that is part of the overall IT budget, and that is used across multiple business units, can be analyzed from various portfolio views of the data.

Application Portfolio Waste

Uncontrolled, unarchitected application portfolios result in perhaps the greatest levels of unplanned IT waste — activity that does not provide value to customers. Business leaders, however, are reluctant to invest just to retire costly systems. It is difficult to gain agreement to incur the costs associated with migrating to new systems and to gain agreement across the business to the common processes in, for example, a new administrative packaged application. They also seek to avoid the painful difficulty of organizational change from retiring systems.

Use of an EA road map in setting the direction for the project and application portfolio can provide a leverageable foundation and mitigate waste for both PPM and application portfolio management. IT portfolio management and EA are driven from enterprise strategy:

- PPM is focused on managing change and project delivery.
- PMO provides project oversight and links abstract EA to real projects.
- EA closes the gap between current and ideal architecture with both new projects and retirement of noncompliant legacy:
    - EA generates new project ideas for PPM to manage.
    - EA value is driven only from real customer/user benefits.
    - The EA board directly integrates EA activity into project methodology (or the software development life cycle process).

Operate architectural and project assessments in tandem to ensure robust IT decision capability. IT PPM is not just about selecting among rival project proposals, but also about managing their deliverables. In other words, it is about the overall IT investment, including evaluating the near-term benefits realized from IT projects as well as the ongoing value — to real customers and users — of the IT deliverables that constitute the system environment. At each phase, key EA input and assessments are essential.

In the selection criteria for IT investments, business, performance and technical reference models can be used to assess the alignment with business and technical strategies, goals and objectives. As specific projects go through their life cycle and are regularly evaluated for cost, schedule and performance progress, testing for architecture fit, sequencing impact and project interdependencies can be included. Finally, in post-investment reviews used in comprehensive IT PPM approaches, actual project outcomes can be used to determine potential technical work and changes affecting the desired targeted business and technical architectures (redevelopment, re-engineering, earlier phase-out and so forth).

Factoring Risk Into Project Prioritization

An objective risk management process can define risk-related exposure for a project, minimize it and clearly identify responsibility for managing various classes of risk. IT projects have historically

had relatively poor records of predictability in scheduling, costs and payoff relative to other forms of investment. Use Gartner's IT investment risk management process for identifying, assessing and managing IT-related investment risk in the following six categories, to understand and assess risks, mitigate them where possible, develop contingencies to hedge your position and understand the risk premium that you should assess on your investment (see "Toolkit: How to Assess Project Risk"):

- Complexity
- External
- Operational
- Organizational
- Schedule
- Technology

Quantify the weight of each risk (its impact on the project if the risk materializes — that is, a minor impact of 2 or 3, or a major impact of 8 or 9); and approximate the probability of each risk occurring (for example, unlikely at 0.2 or likely at 0.8). Multiply weights by probabilities and sum them all up. Divide the sum of the weighted probabilities by the sum of the weights to derive a "risk factor" for the project. Use the risk factor to correct for cost-benefit or ROI analysis that does not consider the likelihood (or unlikelihood) of success.

Develop mitigation plans, and do not forget about the risk assessment as the project proceeds. Monitor project risks in a dashboard, and candidly analyze and report risk levels to executive sponsors, with recommended mitigations. Ongoing risk monitoring should be considered a "necessary but not sufficient" measure. The regular review of a risk dashboard can focus attention on known risks but can too easily become a "pro forma," redundant exercise. Beyond monitoring known risks, effective project managers adopt an attitude of risk discovery. Routine contacts with team members, sponsors, contractors, quality assurance staff and others are opportunities to probe for unknown risks — the most dangerous variety.

RECOMMENDED READING

"Maturity Assessment for Application Organizations: Application Portfolio Management"

This research is part of a set of related research pieces. See "Managing in a Downturn: Focus on Cost Optimization Will Linger" for an overview.

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