Bending the IT Op-Ex Cost Curve Through IT Simplification

By applying a holistic approach to reduce IT complexity and ward off inefficient operations, CIOs can greatly reduce their annual operational expenditures and create self-funding mechanisms to enable digital transformation.
EXECUTIVE SUMMARY

CIOs are dealing with an increasingly complex IT landscape, often as a result of mergers and acquisitions and years of accumulated legacy technology, much of it outdated. But business never rests, and new demands drive greater complexity as new architectures, platforms and applications accumulate year after year.

While performing a comprehensive IT portfolio review may seem like a daunting undertaking, at some point the effort required to maintain years of inefficiency will outweigh the effort required to tackle the project. Such an overhaul can often achieve investment breakeven within the first year.

By applying a systematic simplification framework, IT organizations can examine the full estate of infrastructure, applications, people, processes, tools and architecture. This approach enables them to simplify, modernize and secure IT operations and bend the IT operations expenditure (Op-Ex) cost curve to self-fund IT and business transformation. This white paper explains how CIOs can programmatically create an IT foundation for the digital era.
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CONTENDING WITH UNSUSTAINABLE IT COMPLEXITY

Today’s CIOs grapple with a multitude of inherited challenges. From an inside-out IT portfolio perspective, these obstacles include:

- **A massive and unstructured expanse of IT applications**: Enterprises run on a mix of legacy and modern technologies, many modified and all supported concurrently. In many cases, the accumulation of disparate code has resulted in a set of redundant features and technologies scattered across the applications portfolio. Like spaghetti, these application portfolios are difficult and expensive to maintain, with fixes in one area often causing issues in another.

- **Heterogeneous and expensive technology architectures**: Process changes and applications tend to proliferate over time. As they stack up, architecture rules and governance becomes increasingly cumbersome, and enforcement is often applied unevenly or even bypassed.

- **Legacy and duplicate infrastructure**: Today’s business world is fueled by the need for deep capacity and rapid analysis and decision-making. Distributed and heterogeneous networks, data centers and technology environments are often so unwieldy and difficult to manage that they undermine organizational change and agility.

- **Inefficient processes and skills shortages**: Manual, hands-on processes become increasingly difficult to staff in tight skills markets. Processes that require significant human intervention should be examined to see if they could be better handled by automation. Here, again, it is important to proceed systematically. Without a cohesive strategy, automation will simply entrench bad processes and introduce a whole new set of inefficiencies within and between systems.

- **Overly complex workflows**: A litany of impediments — disharmonized processes and operating models, overly broad communications, excessive handoffs, and extraneous and rigid management approvals — all add significant cost, time and overhead. They can “ping-pong” projects, burdening limited resources and creating unnecessary rework, workarounds and scheduling delays.

As such, IT complexity is a multidimensional problem that cannot be solved by selectively addressing discrete elements. Architecture and systems management tools impact infrastructure and application choices. Legacy modernization investments should be considered alongside new digital capabilities and partnering decisions. Automation should be applied synergistically across both applications and infrastructure. And processes, operating models and governance work best when they are interlocking and facilitate an agile, empowered and innovative work environment.
Achieving long-lasting efficiency and value benefits requires the orchestration of diverse elements of the IT environment to create a set of cohesive, well-managed services and business-oriented outcomes.

Treatment Strategy for IT Op-Ex Reduction

Setting up for the digital future by bending the Op-Ex curve 10 – 35%.

Our TransformIT Strategy

- Eliminate
- Applications & Platforms
- Ticket Reduction & Automation
- 5 - 20%

- Automate
- Infrastructure
- Process Optimization
- 5 - 15%

- Industrialize
- People
- Tools Optimization
- 10 - 20%

- Synergize
- Processes
- Operating Model Optimization
- 10 - 15%

- Transform
- Business
- Security & Compliance
- 5 - 10%

- Short-to-Mid-to-Long Term
- Agile – DevOps
- 10 - 30%

- Enterprise IT Strategy
- Cloud Readiness
- 5 - 10%

Figure 1
A PROVEN IT SIMPLIFICATION FRAMEWORK

CIOs can simplify and refine their enterprise IT landscape through a structured, holistic and well-governed strategy that can successfully bend the Op-Ex curve and pave the way for a systematic digital journey (see Figure 1, previous page). We find the following four-step approach to be an excellent starting point. It focuses sequentially on enterprise IT inventory and strategy; process, tools and operating model optimization; application infrastructure optimization and cloud migration; and IT operations automation (see Figure 2).

- **Enterprise IT inventory and strategy:** Bending the Op-Ex cost curve begins with taking a hard look at what your organization is currently spending on common architecture and tools across business entities – not only capturing direct payments to external vendors, but also overhead costs such as internal staff hours and effort. Start with these key questions: Which systems are under- and over-utilized; which have the highest outage rates; which require significant work-arounds to accommodate new technology and re-provisioning; and which receive the highest number of user and admin complaints? (Note that while it may be tempting to start fixing problem spikes as they are identified, avoid the temptation to tackle initiatives piecemeal before you have the full picture, as a more complete view may actually add complexity and generate unexpected breaks and inefficiencies.)

**Focus Areas of Our IT Simplification Framework**

<table>
<thead>
<tr>
<th>CORE LEVERS</th>
<th>Enterprise IT Strategy</th>
<th>Operating Model, Process and Tools Optimization</th>
<th>App/Infrastructure Optimization and Cloud Migration</th>
<th>IT Ops Automation</th>
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<tbody>
<tr>
<td>IT Portfolio Strategy</td>
<td>Process &amp; Agile-DevOps Maturity Assessment</td>
<td>App. Portfolio Rationalization</td>
<td>Debt Reduction</td>
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<tr>
<td>Technology Strategy</td>
<td>Business Alignment, Service Orientation &amp; Platform Strategy</td>
<td>Cloud Fitment Analysis</td>
<td>Automation Analysis</td>
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<tr>
<td>Sourcing Strategy</td>
<td>Asset &amp; Tools Optimization Product Aligned Ops</td>
<td>Infrastructure Consolidation &amp; Optimization</td>
<td>Shift Left</td>
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**DELIVERABLES**

- Portfolio Transformation Roadmap
- Business Case with ROI Projection
- Process Maturity Profile
- License Optimization
- Future Mode of Ops
- Recommendation for Agile-DevOps adoption
- 6-R Strategy
- Cloud Fitment and Viability
- Infrastructure Optimization
- Debt Analysis
- Automation Opportunities
- Shift Left Opportunities
Armed with a thorough understanding of your company’s business objectives and an accurate IT “as is” state, your team can develop a high-level strategic IT roadmap, reference architecture, and business justification that leverages established industry standards and best practices.

- **Process, tools and operating model optimization:** During this phase, your team will review the process maturity of your plan-build-run organization compared with industry standards and best practices such as IT4IT, PMBOK, CMMI, ITIL. Adopting the DevOps discipline of continuous integration/continuous delivery (CI/CD) with an integrated platform strategy can significantly reduce both effort and time-to-market. This phase is also where your team can assess opportunities to optimize tools and licensing, and transform your organization’s operating model from task-based to managed services or business-outcome-aligned organizational models.

- **IT operations automation:** Addressing trouble tickets and backlogs can provide a unique opportunity for understanding IT issues, as well as identifying low-hanging fruit for cost reduction through automation. Our approach to trouble tickets is to categorize them as technical, operational, functional or knowledge debt, and as either avoidable or unavoidable.
  - **Technical debt:** This typically arises from infrastructure scalability issues or poor coding (e.g., repeated incidents that require frequent web logic server reboots due to memory overflow).
  - **Operational debt:** Manual processes and unstructured data can interfere with smooth IT operations and generate excessive incidents and service requests. Manual processes for routine requests such as password resets and application access create unnecessary operational debt.
  - **Functional debt:** This is created where nonstandard or disparate infrastructure or gaps in functionality lead to a high volume of ad hoc requests, such as for data views and reporting.
  - **Knowledge debt:** Where application and infrastructure documentation and training are inadequate, users will reach out to IT support staff for assistance. Compensating for organizational knowledge debt is typically an expensive use of scarce IT resources.

Most of these debts are avoidable and can be reduced or even eliminated through a combination of automation, documentation and industrialization. Deliverables in this phase of the IT simplification framework typically include specific recommendations and metrics for ticket reduction, an automation reference architecture and expected ROI.
APPLICATION PORTFOLIO RATIONALIZATION AND CLOUD READINESS

Organizations can’t remain competitive or relevant without rationalizing their complex, inefficient and expensive IT systems into a simpler, high-performing and cost-efficient IT portfolio. To achieve this, the IT portfolio must be aligned with the organization’s business objectives and must be flexible enough to address ever-changing business demands. This means that legacy applications, traditional operating models and low performing assets and processes must be quickly assessed for future fit.

To begin, companies should complete an objective, deep-dive analysis of the business and technical costs and contribution of each application in the IT portfolio. Based on the relative value each application provides, the organization can decide to retire, retain, replace or refactor.

Once a portfolio is constructed that can deliver/act faster and provide higher business throughput, organizations need to think of cloud-based solutions to unlock the potential of digital business opportunities. By performing a cloud-readiness assessment, your organization will be able to unearth the potential cost advantages compared with owning and managing all applications portfolios on premises. In addition, it can access predictive analytics, auto-scaling options, add-ons that support certain business requirements, and integration of technologies for better controls and monitoring.

As part of this analysis, organizations should assess which applications are good candidates for migrating to the cloud, and develop a migration plan to lift and shift (re-host with basic infrastructure-as-a-service upgrades), lift and optimize (re-host and automate continuous integration and continuous delivery provisioning) or lift and transform (replace and possibly re-host) (see Figure 3, next page).

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Remaking the Applications Portfolio

TANGIBLE, REAL-LIFE BENEFITS

Implementing an IT simplification framework can provide dramatic, long-term savings. A major U.S. healthcare company whose Op-Ex had been growing by almost 13% year-over-year, recently applied this approach to identify $48.8 million of annual savings on a $232 million base — a 21% annual reduction in Op-Ex (see Figure 4).

Use Case: A Major U.S. Healthcare Company

<table>
<thead>
<tr>
<th>Challenge &amp; Opportunity</th>
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<tr>
<td>• Reduce Op-Ex by 15 – 20%.</td>
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<td>• Variable-ize current spend.</td>
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<td>• Invest the savings toward transformation.</td>
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<tr>
<th>Assessment Approach</th>
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<tr>
<td>• Conducted executive interviews, facilitated workshops, analyzed IT landscape to identify Op-Ex cost drivers, define quick wins, cost optimization recommendations and develop an implementation roadmap.</td>
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<tr>
<td>• Key analysis tracks – left shift and IT process management, IT asset and financial management, sourcing and spend optimization, automation and AI, standardization and rationalization, cloud transformation and operating/delivery models.</td>
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<tr>
<th>Key Op-Ex Cost Drivers</th>
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<tr>
<td>Automation and Op. Model optimization (labor cost, productivity, left shift, etc.) 35% of Op-Ex and has been growing at 9.2%.</td>
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<tr>
<td>Tools Optimization (License and Maintenance) 31% of Op-Ex and has been growing at 28%.</td>
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<tr>
<td>Sourcing Strategy (Managed Services) 17% of Op-Ex and has been growing at 51%.</td>
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<tr>
<td>Sourcing Strategy (Independent Contractors) 8% of Op-Ex and has been growing at 3%.</td>
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<tr>
<td>Infra Optimization (Cloud, Storage, etc.) 9% of Op-Ex and has been growing at 40%.</td>
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<th>Cost Savings:</th>
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<tr>
<td>Year 1: $2.3 M/Yr (0 – 3 Months)</td>
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<td>Year 2: $36.4 M</td>
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<td>Year 2: $17.6 M/Yr (0 – 12 Months)</td>
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<td>Year 2: $9.64 M/Yr (0 – 18 Months)</td>
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<tr>
<td>Year 2: $4.8 M/Yr (0 – 24 Months)</td>
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<tr>
<td>Year 2: $2.9 M/Yr (0 – 18 Months)</td>
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Cost Savings: $48.8M from a budget of $232M - 21% Op-Ex reduction
LOOKING FORWARD

While business leaders recognize the need to leverage digital technologies to transform their business and keep pace with intense competition, they also must balance this pursuit with other critical investment priorities, such as product R&D, sales and marketing, and customer support. The primary benefit of completing a global IT simplification framework is that Op-Ex savings can be substantial, and typically, any savings that IT achieves in operating efficiencies can be retained within the IT organization and applied to accelerate strategic projects.

To achieve substantial Op-Ex savings, evaluate your IT environment holistically, anticipate touchpoints and dependencies, and identify and prioritize opportunities to simplify, modernize and secure IT elements. Look to leverage a proven framework for identifying and remediating portfolio inefficiencies. A best-practices framework can help you to efficiently and effectively do the following:

• **Inventory your “as is” IT environment** and develop your desired “to be” enterprise IT strategy and roadmap.

• **Identify opportunities to reduce licensing fees**, and move IT processes from task-based to managed services or outcome-based models.

• **Analyze the trouble-ticket repository** and apply debt analytics to identify opportunities for effort elimination and work automation.

• **Analyze application portfolio utilization, cost and contribution**, and identify candidates to retain, replace, refactor or retire. Look for opportunities to leverage cloud-based technologies to reduce costs and increase operational flexibility and scalability.

• **Adopt a continuous development/integration mindset** leveraging Agile and DevOps to accelerate time-to-market and reduce costs and rework.

While completing a holistic analysis and roadmap of your Op-Ex environment does involve an upfront investment, either by dedicating internal resources or hiring outside expertise, the investment will give back year after year. It will free up funds and resources you can dedicate to much higher-value strategic and transformational opportunities.
FOOTNOTES

1 www.cioinsight.com/it-management/it-budgets/is-technology-debt-handicapping-your-organization.html.

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Vijay Anand heads Solutions and Consulting for Application Value Management (AVM) Services for Cognizant’s Digital Systems & Technology business unit. He has 19-plus years of technology management expertise in IT strategy, business development and presales, product management and technology consulting, working for both service providers and IT product companies. Vijay also successfully incubated a global start-up in supply chain management. He specializes in the areas of application development and maintenance and next-generation application services leveraging predictive analytics, automation and commercial model transformation. He has an undergraduate degree in computer engineering from Bharthiyar University, India, and an MBA in international business from Thunderbird at Arizona State University. He can be reached at Vijay.Anand2@cognizant.com.

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Kandarp Nathvani leads Cognizant’s Application Value Management (AVM) Consulting Practice, which focuses on delivering value to our clients by transforming their AVM function and capabilities. Typical solutions cover areas like strategy, spend and operating model, portfolio optimization, zero maintenance and automation, service resilience, managed services, service integration and management (SIAM), etc. Kandarp has close to two decades of IT strategy and transformation experience. He has played multiple roles in the consulting business, managing practices, solutions, clients and people. He has helped numerous Fortune 500 enterprises in optimizing IT spend-mix toward industry best practices and in driving IT agility by assessing organizational strategy and governance, structure, portfolio and processes, tools, metrics and culture for designing appropriate treatment strategies. He has an MBA in finance and an engineering degree in electronics and communication. Kandarp can be reached at Kandarp.Nathvani@cognizant.com.
ABOUT COGNIZANT

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