Application Portfolio Rationalization
Transforming your application portfolio
CONTENTS

The Need for Rationalizing the Application Portfolio 3

The Scope of Application Portfolio Rationalization 3

The Nuts and Bolts of Rationalizing the Application Portfolio 3
- The Application Rationalization Toolkit – Tools and Mechanisms 3
- Framework for Application Portfolio Assessment 5
- Applications Weightage 6
- Rationalization Map and APR Analytical Model 7
- Analysis and Typical Outcomes 8
- Process and Tools 8

Benefits of APR 9
- Strategic IT Roadmap 9
- Application Modernization and Consolidation 9
- IT Platform Consolidation 9

Succeeding with APR 10
- Critical Success Factors 10
- Avoiding Bias 10
- Building Consensus 10

Our Credentials 11
Case Study 1: Transportation 11
- Business Scenario 11
- Value Delivered 11
Case Study 2: Manufacturing 11
- Business Scenario 11
- Value Delivered 11

Conclusion 12
The Need for Rationalizing the Application Portfolio

IT teams of most businesses drive investments towards delivering new reliable applications and new technologies. However, with changing business needs, ongoing economic uncertainty, poor business-IT alignment, mergers and acquisitions, and compliance pressures, organizations over time become a hub of hundreds of legacy, sub-optimal and sometimes redundant processes and supporting applications, information silos, incompatible technologies, and an unmanageable application portfolio. Industry statistics suggest that almost 80% of the IT budget is spent on ongoing operations and maintenance, while only 20% is used for future business needs. In order to have a balanced application portfolio, many organizations reduce IT spend by systematically identifying and decommissioning ageing applications to drive operational efficiency, reduce the overall complexity and risks and contain costs.

Organizations thus need to continuously analyze their application portfolio for its business value, potential to deliver more value, and reduce cost of ownership. Such ongoing comprehensive assessments help CIOs and IT executives make strategic decisions on how to rationalize the application landscape, reduce cost of ownership and improve speed-to-market.

This paper describes a robust Application Portfolio Rationalization (APR) framework for understanding functional and technical gaps, and recommends opportunities to replace/transform, retain, migrate, technically or functionally extend an application for increasing its usefulness. It also describes why we need APR, and critical success factors to execute. This paper also articulates a comprehensive approach to APR by tailoring processes as relevant and using a simple toolkit.

The Scope of Application Portfolio Rationalization

With the global economy slowly stabilizing, IT organizations face an unprecedented demand to maintain an effective application portfolio – a collection of software applications - to sustain growth and impact the bottom line. However, with the proliferation of applications over time, organizations need to ensure that the application portfolio health is continuously evaluated and applications rationalized in order to decrease business failures and help determine the extendibility potential of specific applications. Rationalizing the application portfolio identifies obsolete, redundant and business-critical applications by rigorously assessing them in each domain. When executed right, Application Portfolio Rationalization (APR) leads to reduced Total Cost of Ownership (TCO) and maximization of business ROI; realized through application elimination, replacement, consolidation or modernization.

Application rationalization is not merely a task of cost cutting but is an initiative by the organization to transform a highly complex and moderately effective application portfolio to an agile and productive portfolio aligned with the business and IT needs of the organization.

The Nuts and Bolts of Rationalizing the Application Portfolio

The Application Rationalization Toolkit – Tools and Mechanisms

Organizations need a wide range of tools and mechanisms to keep the application portfolio rationalization process on track. As a result of successful application portfolio rationalization engagements, we have a wide range of home-grown and industry standard tools and mechanisms that can help assess applications, analyze and communicate outcomes and the imperative for change, and make effective business decisions as a result. These tools are adapted for each requirement and are being evolved continuously.
<table>
<thead>
<tr>
<th>#</th>
<th>Tool</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>1</td>
<td>Evaluation grids (4 quadrant (2 X 2) matrices)</td>
<td>A series of prioritization and focusing tools using the four quadrant (2 X 2) grid with varying axes. These simple tools help in easy communication of alternatives and ratings/rankings.</td>
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<td>2</td>
<td>Pareto Analysis</td>
<td>Helps in ranking identified criteria or parameters, especially when attempting to focus on the most important and the most significant criteria.</td>
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<td>3</td>
<td>Architectural Trade-off Analysis</td>
<td>Systematically evaluates architectural options against business and non-functional requirements, ensuring that the most critical are never compromised.</td>
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<td>4</td>
<td>Root-cause analysis</td>
<td>Ensures that the real causes for any constraint or failure are systematically identified.</td>
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<td>5</td>
<td>Forced-Decision- Matrix (FDM)</td>
<td>Builds consensus on the relative importance of the assessment factors, assigns relative weights and chooses between these factors.</td>
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<td>7</td>
<td>Process flow-charts and swim-lane diagrams</td>
<td>Critical business processes shall be mapped using swimlane diagrams to identify bottlenecks and dependencies.</td>
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<tr>
<td>8</td>
<td>Questionnaires and checklists</td>
<td>Used to elicit perceptual and factual responses from stakeholders and ensure a structured uniform response that can be consolidated and analyzed.</td>
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<tr>
<td>9</td>
<td>Risk cue charts, risk radars</td>
<td>Used to ensure complete risk analysis and mitigation planning, risk management and reporting.</td>
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<tr>
<td>10</td>
<td>Architectural representations</td>
<td>Industry standard architectural representations and analysis tool for communication, evaluation and consensus building.</td>
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<tr>
<td>11</td>
<td>Decomposition diagrams</td>
<td>Used for disaggregating complex areas like process flows into dependent constituents for ease of analysis and communication.</td>
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<tr>
<td>12</td>
<td>Use case diagrams</td>
<td>Documents, validates and analyzes core processes supported by each touch-point as viewed by each target customer profile.</td>
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Framework for Application Portfolio Assessment

A robust framework for application portfolio rationalization (Figure 1) provides solution strategies and necessary information on how to improve application health. The framework helps organizations in analyzing and transforming the application portfolio, and generates a final effective rationalized application portfolio.

Following application portfolio analysis, the framework helps in making recommendations to retain, migrate, replace/transform, conduct functional or technical upgrades and consolidate applications technically.
Applications Weightage

Our application portfolio rationalization framework takes into account key parameters that assess the functional and technical health of an application. Each of the technical and functional dimensions (see Figure 2) of an application is assigned a weight based on its relative importance. Individual applications are assessed on each parameter to identify and understand critical functional and technical gaps. The functional and technical dimensions, when evaluated, identify each application’s positioning in its lifecycle, assess the opportunity for improvement, calculate potential impact and guide the actions needed to optimize the application’s business effectiveness.
Rationalization Map and APR Analytical Model

Our approach to APR systematically identifies gaps in the portfolio and generates a rationalization map (Figure 3) using the total weighted value of the functional and technical dimensions (Figure 2) of the application.
The rationalization map is the outcome of the analysis process just described. Nine quadrants identify opportunities for application migration, retention, replacement or functional and technical consolidation as illustrated below (Figure 4).

Analysis and Typical Outcomes

- Application portfolio alignment to the organization’s strategic business and IT objectives
- Identification and understanding critical functional and technology gaps
- Providing better informational support to business
- Lowering cost of maintaining the applications infrastructure
- Simplified and rationalized application portfolio that is easier to manage

Process and Tools

Tailoring APR Processes as required

Application Portfolio Rationalization is not a static or one-time exercise. It must be integrated into the workings of business and IT operations – specifically processes that are needed for planning, investment, key decisions and review. The cross functional team engaged for APR must leverage and tailor the following processes for effective portfolio rationalization:

- Application Portfolio Management (APM)
  APM addresses the quality and functionality of all the applications in use within an organization. The need is to manage the lifecycle of the application from the time the application started working to the time the aging application was retired.

  APM provides key planning and management details such as applications age, reliability, technology and platform used and whether it fits the business needs for IT modernization programs.

  Progressive refinement from a high-level assessment and comparison with reference application roadmaps results in focused decisions that improve the return on the applications in use.

  How this data is collected and assessed depends on the maturity of supporting information systems and availability of performance and cost data.
• **Investment Planning**
  Investment planning is budget allocation for running, changing or transforming the business. It covers all the costs of rationalization and provides the following two inputs:
  - Target application portfolio revalidation to ensure that it is aligned with the business objectives.
  - Rationalization program alignment with business and IT
  - Return on Investment
  - Trade off analysis to support critical decisions
  - High level cost and effort estimates for the transformation
  - Assessment of business risks during transformation

• **Project Management**
  Project management ensures adherence to objectives, resources, schedules and results. Rationalization is done first by steering business change towards new technology platforms and next by addressing rationalization objectives in projects. The challenge is early identification, management and mitigation of risks while ensuring optimum utilization of people resources, both internal and contracted or outsourced.

**Benefits of APR**

**Strategic IT Roadmap**
Organizations must build a strategic IT roadmap to align with business priorities. These roadmaps are built with the help of a cross functional team including Architects, and Business and IT leaders using specific evaluation criteria such as alignment with business goals, IT or/and business strategy and objectives, budget availability, total cost (license, implementation, training, and support), technology maturity and longevity, people skills and motivation, and complexity and stability of business processes supported.

The IT roadmap reflects a segmented, logical, affordable and achievable plan for application disposition — to decommission, remediate, re-platform, consolidate or enhance applications. The actionable roadmap thus defines an effective framework to identify gaps, changes, and benefits specific to each phase in a transformation from current state to future state. A good roadmap contains the following details:

• Updated Application Portfolio inventory
• Application Portfolio effectiveness assessment
• IT infrastructure effectiveness and adequacy, gaps and remedies
• Outsource / Insource services scope and boundaries
• Management and governance structure for the transition and steady-state
• High level timeline and cost estimates for the rationalization of the application portfolio
• High level critical success factors, risks and recommended mitigation strategies

**Application Modernization and Consolidation**
Organizations run numerous legacy applications built on outdated technologies, and hardware and software platforms that are no longer supported. Such legacy applications are difficult to maintain and operate, and limit an organization’s ability to support evolving business requirements. The APR approach that we follow help organizations identify and prioritize difficult to maintain and operate legacy applications for potential modernization and consolidation.

Before modernizing and migrating legacy applications to newer, less expensive and more efficient technology platforms, we help identify applications that can be eliminated, consolidated or replaced with more cost-effective solutions. Opportunities to leverage every existing application to the full are explored. Investment in complex business logic and data is protected by modernizing existing applications as appropriate. APR also defines consolidation opportunities while modernizing the legacy applications, thus simplifying the applications estate.

**IT Platform Consolidation**
Platform consolidation helps organizations develop a transformation strategy in order to meet the goals of the business. NIIT Technologies’ APR approach helps organizations consolidate multiple applications on-to more flexible technology platforms, accelerating time-to-market, reducing operational costs and facilitating multi-channel capabilities.
Succeeding with APR

Critical Success Factors
To realize the business value from an application portfolio rationalization exercise the following critical success factors must be managed:

- **Joint team of Skilled Technology and Knowledgeable Domain Experts**
  A cross-functional team of technology and domain experts including business and technology architects, application team, and domain specialists is essential for the success of the application portfolio rationalization exercise. An effective cross functional team will ensure that high performance and reliability is built into the entire application portfolio. Solutions can be rapidly designed, built and implemented to solve complex problems if they have been thought through from both, the technology as well as business criteria.

- **Active Participation of all Stakeholders**
  Stakeholders such as application managers, end users, business owners, IT managers, and technical architects must actively participate in the application portfolio rationalization and optimization process. This is often a collective perception exercise and requires a wide cross-section of respondents to be fair and balanced. Executive stakeholders constantly monitor key performance indicators such as total cost of ownership, costs and applications performance, and business user performance to measure overall application portfolio effectiveness, improve governance and align business with IT.

- **Availability of Budget and Resources**
  Most application portfolio rationalization programs fail due to unavailability of budget and resources to either do the exercise properly or to implement the recommendations. In order for a program to be successful, organizations must understand and assess the budget and the resources requirements before taking on such an exercise and then to take full advantage of the recommendations to achieve desired benefits within reasonable time.

- **Top level management support**
  It is essential to gain top management support for the application rationalization program because of the multi-dimensional change it often implies. The APR roadmap requires business environment changes, sometimes impacting people and structure, job responsibilities and authority, not just technology changes. In order to succeed the top management must therefore:
  - Align the rationalization project with the organization vision and goals, and
  - Clearly convey top-priority objectives including training and strategies to align stakeholders with them.

Rationalization programs require outcome oriented governance from the top level management to address prioritization and funding. Investment allocation and high level review of the program is important for application rationalization.

Avoiding Bias
Application Rationalization can be performed at several different levels, depending on the business need and the time available. People involved must strike a balance between the top-down and the bottom-up perspectives on what is important for their company. They must evaluate business driven application requirements to identify and prioritize applications within their portfolio. In order to ensure a finely tuned application portfolio that makes the most of the existing systems and incorporates new functionality, the decision should be based on the relative importance (criticality) and priority as deemed by the organization’s objectives rather than on the personal needs. This multi-dimensional assessment must be protected from personal bias and the bias of authority. Tools to ensure an unbiased assessment therefore become very useful.

Building Consensus
People at different levels analyze applications using different criteria and assign differing weights to even similar criteria. Developers and team leads see the breadth, depth and scope of an application while project managers analyze how applications integrate with several other applications and decide the ones that are necessary. CIOs assess applications at the business unit level and decide the value that each application provides to the enterprise, and so on. It is important to generate multiple perspectives but also to build consensus on the conclusion and roadmap so that the resultant recommendations will be supported.
Our Credentials

Case Study 1: Transportation

Business Scenario
The client is a global leader in chauffeured services and ground transportation logistics management, providing full-service solutions for the world’s most discerning travelers. The client was working with multiple applications assets with no clear mapping between the business functions and the supported technology. The technology spending for each business function was also not known. Hence there was complete lack of clarity on Total Cost of Ownership (TCO) for these applications. The client wanted to take strategic inventory decisions on applications worth enhancing, applications that needed to be decommissioned and applications that needed to be revived. The decision on inventory was hampered by the lack of clear and quantifiable financial information.

Value Delivered
The client partnered with NIIT Technologies to align its application portfolio with its strategic IT objectives. NIIT Technology with years of experience on Application Rationalization and Gap Analysis was able to identify and evaluate major discrepancies within the system. We also undertook strategic initiatives to map core systems and applications.

The three major transformation areas are:
1. Organization Transformation
2. Governance Transformation
3. Process Transformation

NIIT Technologies solution aligned with latest industry trends streamlined the IT management process, while providing premier customer experience. The benefits reaped by the client were:
- Ensured better alignment between IT and business teams
- Improvised utilization of core team by freeing up 33% of resources for strategic projects
- Introduced agile methodologies for developing future IT projects leading to better solutions developed in defined time period. The solution developed minimized the development and maintenance cost by more than 20%
- Established vendor selection and governance model process for better management of strategic initiatives
- Provided future IT roadmap leading to cost benefits of nearly 30%
- Defined a detailed digital strategy roadmap focused on providing premier customer service experience leveraging new touch points such as mobile, iPads, etc.

Case Study 2: Manufacturing

Business Scenario
A leading CPG multinational company based in Europe faced the challenge of disparate information systems with varying usage and maturity, making it difficult to respond quickly to regional disparity, local challenges and central governance needs. The company was looking to rationalize IT investments and identify opportunities to improve longevity and maintainability of its applications. They wanted to assess the impact of tighter IT architectural alignment with information quality improvement to support regional business. The IT organizations’ goal was to make strategic use of IT and IS resources, and reduces duplicate, redundant and complex applications for application portfolio rationalization.

Value Delivered
We worked with the IT leadership team to perform the assessment/analysis of the existing application portfolio, and identify critical gaps in functionality and responsiveness, with the following results:

- Information for critical business processes at each business unit and operating company were assessed for adequacy and quality, based on key stakeholder requirement analysis
- Information systems at each operating unit were assessed for meeting current and future requirements, functional gaps and redundancies. Gaps in base data were mapped and high level IS strategy to bridge gaps were defined.
- Standardized technology platforms
- Application portfolio rationalized for each operating unit, standardized across the region, with regional best practices embedded, thus reducing the cost of maintenance by 50% across the region
- Regional release management process implemented to ensure sustainable gains from regional standardization
- Reduction in direct IT staff by 22% and contract staff by 30%
**Conclusion**

Companies across industries have disparate IT applications and face overwhelming challenges to improve operational efficiency, reduce complexity and Total cost of Ownership. As more and more applications continue to be developed, mergers and acquisitions happen, the application portfolios landscape changes and the need to rationalize the portfolio that best meets business requirements at regular intervals, increases.

A framework that can retain existing portfolio’s residual business value and reduce functional overlap can dramatically change the dynamics of the application portfolio rationalization program. A robust framework acts as a guiding tool to assess and rationalize the portfolio and quickly determine whether the applications are functionally and technically healthy to support an organization’s business strategy. It maps the analysis made with the cumulative application portfolio, and identifies potential applications that can be retired.

In addition, once the organization clearly visualizes the state of their application portfolio, they must build a strategic IT roadmap, modernize and consolidate legacy applications or move applications to flexible technology platforms to avoid application portfolio deterioration over time.

Lastly, the application portfolio developed should be maintained and assessed regularly using effective teams of skilled technology and domain experts, and top management support to better serve a company’s business objectives.

Continuous assessment and maintenance will help organizations realize rationalization opportunities by streamlining existing portfolio’s business value.
About NIIT Technologies

NIIT Technologies is a leading IT solutions organization, servicing customers in North America, Europe, Asia and Australia. It offers services in Application Development and Maintenance, Enterprise Solutions including Managed Services and Business Process Outsourcing to organizations in the Financial Services, Travel & Transportation, Manufacturing/Distribution, and Government sectors. With employees over 8,000 professionals, NIIT Technologies follows global standards of software development processes.

Over the years the Company has forged extremely rewarding relationships with global majors, a testimony to mutual commitment and its ability to retain marquee clients, drawing repeat business from them. NIIT Technologies has been able to scale its interactions with marquee clients in the BFSI sector, the Travel Transport & Logistics and Manufacturing & Distribution, into extremely meaningful, multi-year collaborations.

NIIT Technologies follows global standards of development, which include ISO 9001:2000 Certification, assessment at Level 5 for SEI-CMMi version 1.2 and ISO 27001 information security management certification. Its data center operations are assessed at the international ISO 20000 IT management standards.

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