Next Generation Application Portfolio Rationalization

Just as organizations were crawling back to stabilization from the economic meltdown, they were in for a rude shock. Fire-fighting measures taken during the rough times and the lack of business-IT alignment had resulted in an unmanageable application portfolio. Promising technologies adopted blindly as a cost-cutting measure had been reduced to shelf-ware, eating away at the already squeezed IT budget. The dynamically evolving market conditions of mergers & acquisitions, compliance pressures and the mad rush to reach to the customer with the fastest time to market have pushed organizations to the brink, forcing them to take a cold-eyed view at their application portfolio, so that they continue to provide effective, efficient & timely support to business.

During the pre-recession days, traditional Portfolio Rationalization frameworks were built on cost optimization and legacy modernization drivers. These drivers no longer prepare the organization for the altered market conditions. So, rather than advising on just retiring, retaining, reengineering or outsourcing applications, the framework has to recommend opportunities that take into account the proliferation of emerging solutions, technologies and service delivery models. To address the portfolio optimization demands in the light of present day business challenges, we have developed the Next Generation Application Portfolio Rationalization Framework.
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Introduction

In the contemporary business model, ICT (Information and Communications Technology) serves as the digital nervous system that pushes business initiatives towards success. Applications in turn are akin to nerves, controlling all the interactions between the two. However, with time, these nerve clusters grow in both maturity and complexity as more and more new technologies and service delivery concepts are adopted by businesses faced with the daunting task of surviving in the competitive and dynamically evolving market.

Organizations that need to focus on their core competencies as well as trim their IT budgets, are aggressively adopting solutions and technologies aimed at short term gain without second thought. This mindset has led to a huge portfolio of legacy, packaged software as well as shelf ware applications. With the IT budget to “keep the lights on” overshooting the investment in new initiatives, IT has reached its inflection point. At the same time, the business community is pressing for more agility, flexibility as well as innovation and business transformation. The solution needed is a responsive, cost-effective IT function that is tightly coupled to business strategy and objectives. To achieve that, the first priority is to regain control of the application landscape, rationalize existing systems, remove complexity, terminate redundancy, and finally incubate innovation. So, why does it seem so difficult to embark on an application portfolio optimization journey?

The difficulty faced by organizations is due to the changed nature of drivers or demand conditions for such initiatives. Traditionally viable drivers such as business appeasement, cost containment and legacy modernization have given way to the current market demands which are post Mergers & Acquisition scenarios, Customer Centricity, IT Uniformity, Faster Time to Market and a growing focus on a Greener if not leaner IT.

Hence, any Application Portfolio Analysis framework has to now factor-in contemporary business and IT demands in order to create a pragmatic roadmap. This roadmap should be a blend of investing in emerging technologies and analyzing the socio economic impact of business drivers while optimizing the existing ones.

In this paper, we introduce the next generation Application Portfolio Rationalization Framework and its key building blocks of Attributes, Dimensions and Framework Analytics.

We also introduce the concept of portfolio optimization and its framework, with five different analysis dimensions used in context, to bring out its present value and fitment within an enterprise.
The Application Portfolio Rationalization Journey

The current market dynamics and business demand require a radical shift from mere Application Portfolio Rationalization to what we call as APO (Application Portfolio Optimization). The perspective of APO is the optimization of the entire application portfolio from the viewpoint of business value, technology maturity, and risk and cost effectiveness.

While business transformation drivers cannot be addressed through mere consolidation, retirement or integration of applications, IT can leverage the Next Generation APR concepts laid out in this paper to support such a scenario. These include exploring new options such as the usage of shared services or by adopting Cloud Services to maximize the leverage of each of the business entity's process and IT portfolios. Secondly, faster time to market is definitely a critical business demand - IT can help here through services enablement by creating an index of easy-to-tune and ready-to-use services. This will, in time, lead to a definite service orientation and pave the way for a Service Oriented Enterprise. Similarly, organizations looking to attain Customer Centricity need not go all the way and build costly end user facing applications or boost marketing and advertising budgets. Here as well, IT can come to the rescue by adopting rapidly evolving Web 2.0 concepts and using social media to bring the organization closer to the customer in a cost efficient yet highly proven manner. This uniformity may be attained by unifying disparate applications through packaged solutions or adopting Cloud-based solutions which ultimately pave the way for a Greener IT (by way of reducing resources).

Traditional APR frameworks lose the race when it comes to assessing these modernization options and recommending opportunities for improvements that help organizations meet the business demands efficiently. Hence we developed the Next Generation APR framework which, while providing recommendations around the traditional 4-R’s model, expands to assess the scope for adoption of emerging technologies and service delivery concepts. Hence, it is better poised to recommend organizations on meeting business objectives and create an efficient, effective and agile portfolio.

TCS’ Next Generation APR Framework

The framework takes into account the exhaustive application service capabilities as it elucidates different aspects of an application portfolio with a 360 degree analysis with respect to business, technology, operational characteristics and cost. The efficient Analytics, built using these aspects, statistically factors in business priorities and Enterprise constraints to reach the desired framework outcome.

The TCS Next Generation APR framework has been created based on the following axioms:

a) Application Portfolio Rationalization is a proactive, disciplined and investment optimized approach of continuous evaluation of the application and the corresponding technology portfolio to maximize portfolio performance and effectiveness.
b) The age-old rationalization perspectives of retirement and consolidation have become obsolete, as we now need to assess in terms of portfolio modernization, the new opportunities like Cloud Services, Service Orientation, packaged enterprise solutions or a new services model.

The Framework is based on the following principles:

- The framework should be nimble enough to be customized according to enterprise level priorities and the overall objective of APM.
- The framework should cover all aspects of an application and measure its service capability, life cycle, potential risks and business alignment.
- The framework should enable analysis using the customizable assessment attributes built to meet the organizational drivers that led to the APR initiative.
- The framework should be able to analyze all the requisite areas of the portfolio, and be sufficient enough to provide recommendations for 4-R and newer concepts of Cloud Services, Service Orientation and the alternative services model.
- At the same time, the level of analysis abstraction should be adequate enough for stakeholders to comprehend the rationalization perspective while simultaneously enabling them to adopt the requisite path towards Application Portfolio Management.

The Next Generation APR Framework uses the Analytical Hierarchy Process (AHP) for its analytics. The building blocks of the framework include:

- Attributes – These comprise the application parameter data that characterizes the portfolio. The Dimensions and Sub-Dimensions are built using these attributes.
- Dimensions and Sub-dimensions – Decision Dimensions like Business Value of Portfolio or Portfolio Risks are the key components at the logical level that guide the analysis criteria of the framework. The analysis Dimensions and corresponding sub-dimensions are built bearing in mind the final objective to be achieved from an APR or APM initiative.
- Analytics – This is the decision making process along with the key framework components, that helps to make a deterministic recommendation, amongst alternatives, on portfolio disposition. It is backbone of the framework that establishes the multi-criteria decision-making methodology within the framework.

The framework can be applied to any enterprise level portfolio rationalization and portfolio effectiveness evaluation initiative. The rationalization recommendations can be further leveraged for any enterprise level transformation initiative like M&A, Service Orientation or even change in the IT operating model.

The framework does not cover APR benefit assessment or APM maturity assessment since it has been assumed that organizations embarking on an optimization exercise have already initiated the above activities and have identified the potential benefits.
3.1 The Framework

As already introduced, the key components of the framework include a hierarchy of dimensions, sub-dimensions and attributes for each of the key areas of assessment.

The Framework components include:

- 5 assessment dimensions
- 18 sub-dimensions
- 128 application characteristics or attributes

Each of the dimensions represents specific focus areas for assessment. These are the basic elements, which are then customized according to the perspective of the organization’s focus or objective to build the end-optimization outcome.

The framework’s mathematical model, using the AHP methodology, is used in coalition with the decision criteria to prepare a detailed benefit scoring model.

The framework analytics assess an application portfolio based on the following five key assessment areas or dimensions:

### Business Value of Application

Business Value of Application elucidates the importance of the application portfolio to business as it measures its strategic fitment in the enterprise. The decision criteria also encompasses the future importance of an application that sets the guidance for the proposed application disposition in line with business drivers like improved business agility, improved customer centricity or scalability. The business value of an application is determined based on its value from the following sub-dimensions:

- **Business Impact** – Assess the application’s contribution to business and its impact on enterprise revenue and customer satisfaction
- **Alignment to global standards** – Assess the business process alignment with the enterprise Target Operating Model (TOM).
- **Operational performance** – Assess the operational effectiveness in terms of application run-time performance against functional and non-functional requirements like availability, rendering, stability and scalability.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Corresponding Sub-Dimensions</th>
</tr>
</thead>
</table>
| Business Value Of Application | - Business Impact  
  - Alignment to Global Standards  
  - Operational Performance  
  - Usage Pattern |
| Technology Alignment         | - Platform Maturity  
  - Operational Capacity  
  - Alignment to Global IT Standards  
  - Alignment to EA tenants |
| Application Portfolio Risk   | - Operational Risk  
  - Risk of Failure  
  - System Complexity  
  - Compliance Risk  
  - Application Support Risk |
| Green Footprint              | - Platform Utilization  
  - Operational Feasibility  
  - Organization Readiness to Change |
| Cost Effectiveness           | - Optimal Cost Distribution  
  - IT Operational Cost Reduction |

Figure 1: Assessment Dimensions and Sub-Dimensions
Usage Pattern – Assess the application’s present usage in terms of user profile, user location and user hierarchy and future usage trend.

Technology Maturity provides details of the technology architecture aspect of the portfolio, covering the as-is state of capacity, technology risks, technology utilization, operational behaviour and the application’s compatibility to next generation initiatives like Cloud services adoption and Service orientation. The dimension is further broken down into the following sub-dimensions –

- Platform Maturity – This sub-dimension assesses the as-is state of Application and storage operating systems, deployment platforms and hardware to meet the business demand. The platform legacy is assessed under this sub-dimension
- Operational Capacity – Earlier termed development quality, this sub-dimension assesses the application’s service capability to meet the present and future business needs in terms of important scalability, usability and agility requirements
- Alignment to global IT standards - The sub-dimension assesses the alignment of the technology landscape including platforms, hardware and infrastructure with defined IT standards
- Alignment with EA tenets - The sub-dimension assesses the alignment of overall portfolio, technical and process maturity with EA principles and guidelines.

Application Portfolio Risk dimension assesses the level of risk to business in terms of the probability of failure or degradation of functionality as well as the impact on business operations due to application and technology characteristics. The sub-dimensions assessed for the purpose include:

- Operational Risk – Assessment of risk from the service point of view. This sub-dimension examines the application capability in terms of platform capability vis-à-vis application criticality and projected growth in usage.
- Risk of Failure – Assessment of an application’s points of failure in terms of frequency, internal and external dependencies and mitigation options.
- System Complexity – IT innovation is assessed in terms of application development, integration and qualities
- Compliance Risk – Assesses the compliance risk associated with the application based on the associated regulatory and security requirements
- Application Support Risk – Assesses the level of application support available in terms of support model (team strength, competencies and contracts).

This dimension focuses on identifying the portfolio risks in order to provide a mitigation plan for the same while addressing the business drivers like Merger & Acquisitions, or large scale IT initiatives like Service orientation or Clouding.
**Green Footprint** focuses on the energy efficiency of the application, in terms of hardware legacy and platform utilization, and alternative clouding options in terms of IT constraints and business feasibility. The assessment sub-dimensions used for the purpose are –

- **Platform utilization** – Assessment of platform usage and platform legacy in terms of legacy hardware
- **Operational feasibility** – Where cost efficiency, business feasibility and architecture maturity are assessed. The focus is to identify the IT constraints that could be overcome through strategic options like shared services or cloud options of the SaaS or PaaS operating models.
- **Organization readiness to change** – Assessment of an organization’s readiness in terms of present and future usage of the application.

**Cost Effectiveness** dimension assesses the cost effectiveness aspect of the portfolio vis-à-vis the application’s performance and value to business. The sub-dimensions assessed for the purpose are –

- **Optimal Cost Distribution** – includes balancing of Total Cost of Ownership (TCO) in proportion to business value and business performance. The feasibility of an application for cloud service is also assessed under this sub-dimension
- **IT Operational Cost Reduction** – includes the assessment of the support model and other operational costs vis-à-vis ongoing costs incurred and future cost imperatives.

The framework uses a combination of decision Weights and Scores to derive the portfolio strength and weakness for each of the five assessment dimensions. This is done based on the relative importance (criticality) and priority as deemed by the organization’s objectives from the engagement. The framework reduces the subjectivity bias from the final outcome, by scoring the application at two levels – at the level of attributes and at the level of sub-dimensions.

The scoring is first done at the sub-dimension level. For this, multi-attribute mapping is done with the sub-dimensions. This is followed by scoring each of the decision attributes within the mapping. At the second level, scoring is done when sub-dimension scores are rolled-up by multiplying them with the weight of each of the sub-dimensions to reach the score at dimension level.

<table>
<thead>
<tr>
<th>Score of an Application for a Dimension</th>
<th>$= \sum \text{Attribute Weight} \times \text{Attribute Score}$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Where,</strong></td>
<td></td>
</tr>
<tr>
<td>‘Attribute Weight’ is comparative value of each attribute when deciding for score for the dimensions and</td>
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</tr>
<tr>
<td>‘Attribute Score’ is definitive score given by application owner for the particular attribute for the application</td>
<td></td>
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</table>

**Figure 2: Scoring Rationale**
Attribute Weights are formulated within the range of 0-100%, that is, with an absolute value of 0.00 to 1.00, whereas the scores are between the scales of 1 to 5 in the Value Matrix. Hence the Dimensional Scores lie between scales of 1.0000 to 5.0000.

The framework leverages the statistical analysis model above to design rationalization analytics, which elucidate the application's disposition based on its strength and weakness against the assessment areas or dimensions.

The analysis outcomes set forth the direction to be taken for each of the application or for a set of applications (application clusters) to enhance the efficiency and effectiveness of the overall portfolio by way of adopting various rationalization levers such as:

- Retirement of low-value applications, creating an opportunity for IT simplification
- Portfolio Enhancement through Re-engineering, Migration and Integration opportunities
- Clouding - Shared service optioning.
- Consolidate applications or replace with COTS (Commercial off-the-shelf) or Packaged Enterprise Solutions (like ERP, SCM)
- Technology Standardization

The above focus areas are revisited in detail in the subsequent sections.

3.2 Optimization Perspectives

The Next Generation APR framework is built and used to make recommendations beyond the standard application rationalization options.

The area of improvement opportunities and outcomes recommended through the framework is provided in the table below, where we have depicted that the key recommendations do play a pivotal role in realizing the organization's goal. Here, we have drawn up the impact matrix of the assessment dimensions and recommendations against the next generation business and IT drivers.

The below matrix depicts a 3-dimensional view, where we have established, through multiple strategic engagements, the impact of the Assessment Dimensions (in terms of high, medium and low) on the key transformation drivers that lead to a Portfolio assessment initiative. The matrix also depicts how the assessment dimensions enable rationalization recommendations like retirement, consolidation or clouding.

The key framework building blocks of dimensions, sub-dimensions and attributes are leveraged to define the decision criteria as part of the decision making process, which is termed as the framework Analytics.

The Analytics, elaborated further in the following section, extracts the decisive information from the portfolio data to develop the portfolio recommendations.
### Impact Analysis of Assessment Dimensions

#### Rationalization Levers

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Retire</th>
<th>Enhance</th>
<th>Cloud</th>
<th>Consolidate</th>
<th>Standardize</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low value-added Application</td>
<td>Re-engineering, Migration, Integration</td>
<td>SaaS or Paas</td>
<td>Consolidated Applications or replace with packaged Solutions</td>
<td>Technology Standardization</td>
</tr>
<tr>
<td>Business Efficiency through growth and scalability</td>
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<tr>
<td>Merger &amp; Acquisitions</td>
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<tr>
<td>Improved Business Agility - Enhanced Time-to-Market</td>
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<tr>
<td>Reduce Business Risk</td>
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<tr>
<td>Enhance Application Performance</td>
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<tr>
<td>IT Integration and / or Portability</td>
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<tr>
<td>Improve Business -IT Alignment</td>
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<tr>
<td>Green IT-Application Perspective</td>
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<tr>
<td>Reduce Cost of Service Delivery</td>
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<tr>
<td>Improve Architecture Maturity</td>
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<tr>
<td>Manage IT Risk &amp; Optimize IT Resources</td>
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</tbody>
</table>

#### Legend For Analysis

<table>
<thead>
<tr>
<th>Business Value of Applications</th>
<th>High</th>
<th>Med</th>
<th>Low</th>
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</thead>
<tbody>
<tr>
<td>Technology Alignment</td>
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<tr>
<td>Portfolio Risk</td>
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<td>Green Footprint</td>
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<tr>
<td>Cost Effectiveness</td>
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</table>

**Figure 3: Impact Analysis of Assessment Dimensions**
3.3 Framework Analytics

The Analytics concept has been built by linking the traceability between the Business and IT objectives and the framework building blocks consisting of the portfolio attributes (the application data), dimensions and sub-dimensions.

The key components that constitute the Next Generation Framework Analytics are:

- The Organizational Drivers that lead to the Application Portfolio assessment initiative. These guide the overall framework outcome as it plays a major role in refining the framework Analytics.
- The Opportunity for Improvement (OFI) themes and their mapping with the above mentioned organizational drivers.
- The Scoring Model that incorporates:
  - The mapping matrix of the Decision Dimensions with the OFI themes, and
  - Multi-mapping of Attributes with Dimensions and Sub-dimensions.

An organization’s needs and requirements from an APR initiative will vary depending upon what they want to achieve from the transformation initiative. This will vary, depending on many business factors such as the organization’s industry sector, its presence in the market, its business growth factor, its global and local presence, etc. The Analytic components are specific to an Enterprise, and accordingly, a specific Analytics instance can drive the outcome in accordance with the Enterprise objectives.

As defined below, the framework is capable of analyzing the enterprise needs and perspectives, and also the “portfolio attributes,” adopting both top-down as well as bottom-up approaches to create the traceability required to sustain the effectiveness of the framework.

![Image of Framework Analytics](TataConsultancyServices.png)

**Figure 4: Framework Analytics**
3.4 Assessment Execution Approach

The engagement approach is an outcome of our assimilated learning from past engagements. We know that the by-products of the assessment and the artifacts gathered can be carried forward during the later stages of an application portfolio management program in an organization.

The Next Generation APR framework may be used in several types of application portfolio rationalization engagements depending on their scope and objectives. The framework or subsets of the framework may be used in the following type of engagements:

- Application Portfolio Rationalization
- Application Portfolio Management Definition
- Application Effectiveness Study and Modernization Roadmap

At a broad level an assessment initiative consists of the following activities in sequence:

Strategize
- Finalize Decision Attributes to measure
- Map Attributes with Decision Dimension
- Baseline Attribute Values
- Gather and Publish Portfolio Inventory

Analyze & Score
- Identify Weights of Decision Attributes and Dimensions
- Score Attributes for Applications based on Variant values
- Arrive at Final Score per decision dimension by multiplying Attribute Score with Attribute Weights
- Arrive at Application Health Index by formulating attribute score against decision dimensions

Decide
- Decision Benchmarking based on AHI
- Build Multi-dimension decision blockers
- Finalize Application decisions based on Application score, functional overlap, portfolio gaps & pains

Leveraging A.H.P. Methodology

Figure 5: Assessment Footsteps

Strategizing is the planning step of the framework where the strategy and scope for Application Portfolio optimization is defined. Understanding of the architecture vision, the company’s operating model and the architecture maturity are some of the key inputs in this step. It is during this phase that the envisaged state of the portfolio is planned and designed, and the decision dimensions or attributes are either selected or formulated accordingly. The step ends with the complete inventory of the portfolio. The information gathered is assessed in the Analyzing & Scoring step from different dimensions and the decision options are derived for each application or cluster of applications. At the end of this step, we obtain different clusters of applications based on the findings. The findings are used in the Deciding step to build a rationalization
roadmap. New initiatives are drawn based on the application inter-dependencies, transformation costs and IT benefits, risks of maintenance, resource requirement and availability from the enterprise.

The engagement is carried out through a series of activities including portfolio data capturing, workshops and stakeholder meetings identified by engagement sponsors according to the information categories.

Key activities include –

- Discussion and agreement on the engagement focus and scope of activities
- Finalizing the assessment schemes and dimensions based on the engagement focus. Finalizing the decision attributes required, based on the decision dimensions
- Customizing the assessment framework and data capture model based on the dimensions and attributes decided upon
- Identification of stakeholders for information capture based on information category
- Capturing Application and Technology Portfolio information from identified information sources
- Defining weights at the dimension, sub-dimension and attribute level based on their importance to the organization’s focus
- Conducting workshops and interviews with identified stakeholders to gather information
- If deemed necessary, using advanced decision making techniques like AHP to identify the weights at the sub-dimension and dimension levels
- Analyzing the available documentation and the existing business processes, application and technical architecture
- Collating the findings in the assessment framework and developing a preliminary analysis against all characteristics
- Reviewing the findings with the client and clarifying/elaborating and modifying as applicable
- Identifying the opportunities for improvements and modernization opportunities based on the ratified findings and strategic inputs
- Consolidating and prioritizing the action recommendations with the client via workshops
- Developing a roadmap including an implementation plan of the recommendations
- Executive presentation of the report and deliverables.

### 3.5 Outcomes

The key outcomes of the framework assessment are as follows:

- As-Is Application and Technology profile of the IT in-scope.
Next Generation Application Portfolio Rationalization assessment report including the OFI’s in line with the next generation opportunities along with the rationale for the respective scores. This will provide the organization with a detailed view of the portfolio capability that can be base-lined for future growth.

Recommendations Roadmap including identified projects, timelines and quick wins.

**Value Differentiator**

The Next Generation Rationalization framework offers the level of details necessary to assess and recommend the areas of improvement in emerging technologies and solutions.

The following factors differentiate the Next Generation Rationalization from other contemporary frameworks in public domain:

- The framework has comprehensive coverage to address contemporary business challenges.
- The assessment dimensions enable analysis while taking into account upcoming technology solutions and service delivery concepts.
- The framework examines the impact of business and IT objectives vis-à-vis Rationalization/Optimization options.
- The framework enables customer priorities to be embedded in the final result through the formulation of weights at both attribute and sub-dimension level.
- The framework is applicable to all kinds of Application Rationalization and Application Effectiveness studies.

**Experience Profiles In Using The Concept & Framework**

The Next Generation Portfolio Optimization framework has been used in multiple strategic engagements over the last couple of years with varied scope ranging from Enterprise Transformation to APM Definition or simply APR.

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Analysis Outcome</th>
<th>ER&amp;U</th>
<th>Insurance</th>
<th>BFS</th>
<th>Telecom</th>
<th>Retail &amp; CPG</th>
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<tbody>
<tr>
<td>Retire</td>
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<td>Re-engineer</td>
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<td>Migrate</td>
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<tr>
<td>Cloud (SaaS And/Or PaaS)</td>
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<tr>
<td>Consolidate</td>
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<td>Technology Standardization</td>
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<td>Improve CTB/ Innovation Investment</td>
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<tr>
<td>Portfolio Simplification</td>
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Figure 6: Analysis Outcome spread across client domains
The representation above highlights the key analysis outcomes / OFI's which were recommended as part of the deployment of this framework for different clients spread across domains. Since client names cannot be mentioned (due to NDA obligations) only their respective domains have been highlighted.

The framework was used for one of the leading ER&U companies in the USA. In last five years, the company's business had grown exponentially and in such a situation, the client had developed a federated nature of IT while maintaining a centralized business model. This had created several discrepancies in business services across the globe, impacting business growth. The client was forced to examine its global application portfolio to identify opportunities for improvements, especially Cloud solutions, as part of its IT transformation plan.

Here, the application of the framework not only gave recommendations on retiring or migrating applications but also explored the options of SaaS solutions for CRM and Business Intelligence. We also provided quick wins in terms of consolidation opportunities for its Learning Management Systems by integrating the same with an enterprise wide portal solution. Further, the Cost Benefit Analysis done as part of the engagement approach clearly brought out the expected investment as opposed to the proposed payback period. As part of the engagement we also provided quantified savings in adopting SaaS solutions for various applications such as CRM.

<table>
<thead>
<tr>
<th>Area</th>
<th>Impact Description</th>
<th>Benefit Type</th>
<th>Expected Range*</th>
<th>Expected Benefits / Month</th>
<th>Initial Expenses (or PV of series expenses)**</th>
<th>Payback Period (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td>Min</td>
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<td>LAB</td>
<td>Revenue Enhancement due to better tracking of customers</td>
<td>Revenue Gain</td>
<td>5%</td>
<td>30%</td>
<td>$ 695,000</td>
<td>$ 4,170,000</td>
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<td>Education, Advancement</td>
<td>Revenue Enhancement by more Student enrollment due to better capture of Student / Alumni interaction.</td>
<td>Revenue Gain</td>
<td>10%</td>
<td>20%</td>
<td>$ 170,000</td>
<td>$ 340,000</td>
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Figure 7: Snapshot of Cost Benefit Analysis of SaaS CRM
One of the world’s largest tobacco brands was faced with the daunting task of transforming itself from a globally spread federated enterprise to a globally centralized operating model. However, in its 100 years of existence the client had never undertaken a portfolio rationalization exercise, resulting in a portfolio of more than 5000 applications.

The engagement analyzed the global, regional as well as local level application portfolios spread across 180 locations globally. The engagement helped the client consolidate 63 different ERP systems spread across the globe into one global SAP instance. The cost savings from this centralization was to the tune of millions of dollars.

In the telecom domain, where innovations are the key to market leadership, one client wanted to free cash from large CAPEX investments in order to incubate innovation. Using our framework we recommended moving from a CAPEX investment model to one focusing on OPEX through the adoption of shared services as well as SaaS and PaaS solutions. The result was a cost saving of $ 6.57 million spread across seven lines of business over a period of two years. An insurance giant beset by compliance and regulatory requirements was able to save $5.7 million by avoiding investments in solutions to capture, analyze and report transactional data across the enterprise. On the basis of our analysis we recommended the usage of EC2 services coupled with home grown PaaS based solutions to keep the integrity of critical data.

During the course of engagements such the ones mentioned here we faced a lot of initial apprehension and objections. The key questions which haunted each client can be summarized below:

- Will sensitive customer and organizational data be secure if we adopt cloud services?
- What will be the payback period and the amount of ROI?
- How do we know who owns the application and in turn whether the application still holds business importance?
- What is the justification for selecting application X over Y if all analysis criteria yield the same result?
- How will my business be impacted in case of a disaster at my service provider’s end?
- How will we know the investment on a certain application throughout its lifecycle? More importantly how can we track the ROI corresponding to it over a period of time?

Questions such as these helped in shape the framework further explore the subjective aspects of Application Portfolio Rationalization and give recommendations aligned to business and IT strategy. As a result of the experience gained through such projects we incorporated Build versus Buy and Cost Benefit Analysis to the engagement approach. We also incorporated a detailed Disaster Recovery and Backup plan analysis to answer questions relating to the loss of critical data. As part of the APM engagement we also conduct a detailed organization health check for all vendors, based on a list of criterion that cut across product functionality and based on the organization’s future plans.
Such engagements also brought to the forefront many startling discoveries regarding the way application portfolios have been traditionally managed. One Fortune 500 BFS giant had a portfolio of 2300 applications of which it had no idea as to who the business and IT owners were for 1000 odd applications. Another client had 63 different ERP systems spread across its federated enterprise. For such clients mere rationalization of portfolios does not serve the purpose. Our framework aids in transcending those traditional barriers of rationalization and adds value to the whole exercise by helping organizations build and manage a simplified and agile portfolio.

**Conclusion**

The Next Generation APR framework can be used not only as a guiding tool to rationalize the Enterprise Application Portfolio but also as an Application Portfolio Optimization enabler meeting contemporary business challenges/demands by leveraging upcoming technology solutions and service delivery concepts. In a way this framework helps a company attain Business-IT alignment in a volatile and dynamic global market situation.

In its current state, the Next Generation Application Portfolio Rationalization framework is being used by GCP consultants in various Application Portfolio Rationalization / IT Cost Optimization / Application Effectiveness Assessment engagements. In the near future, we intend to develop an advanced version covering more detailed business-demand attributes as well as automating the analysis with the capability to deliver various dashboard views. This framework can be used to efficiently and effectively assess the Application Portfolio and take strategic IT optimization & OFI decisions.
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