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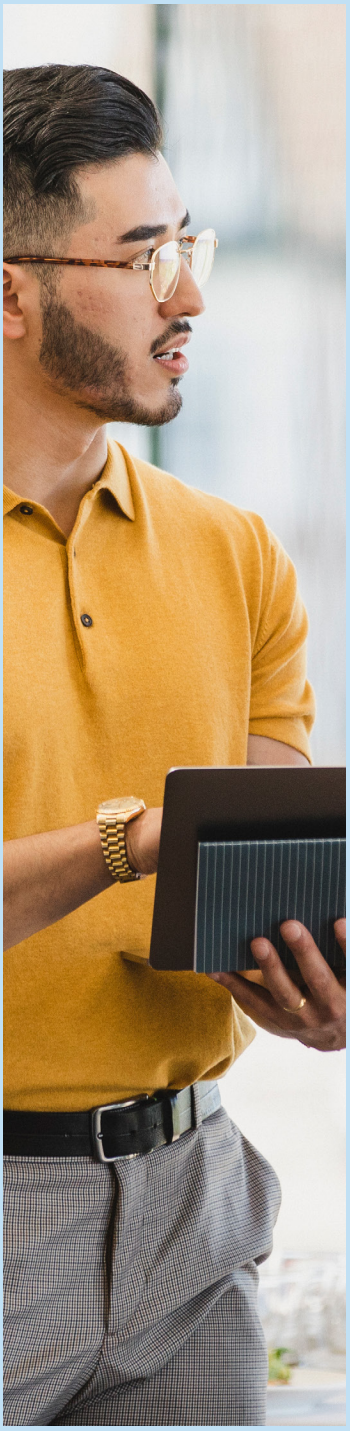

A COMPREHENSIVE MATURITY MODEL APPROACH TO TRANSFORM APPLICATION MANAGEMENT

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Summary

In today's world, almost every enterprise is on a digital transformation journey that requires discretionary capital to be allocated. There is an immense pressure to optimize cost on everything else in information technology (IT) including Application Management Services (AMS).

Digital transformation is an ongoing journey, with increased investment in the early years and continued efforts later due to the advancement in emerging technologies and industry solutions. This makes managing a hybrid application landscape more complex, with some applications in the cloud, some on-premise and some software-as-a-service (SaaS). In addition, IT is becoming pivotal to new business models and revenue streams, unlike the pre-pandemic situation where IT was only an enabler.

Considering all these factors and situations, traditional application management, which focuses only on cost efficiency, cannot deliver the necessary results, and meet the expectations of the CXO. We need application management solutions that can deliver a superior experience, make applications more resilient and efficient, while driving better business results. Enterprises must start by understanding their current application management maturity and baseline current metrics to implement innovative solutions driven by AI, analytics, and cognitive automation to elevate application management maturity and be ready for the NextGen.

Need for a framework to transform Application Management

Traditionally, automation has been the primary focus to optimize and transform AMS. Often, while developing automation solutions, businesses use a portfolio- or technology-centric approach that produce multiple "point solutions" across the enterprise. This results in disparate siloed solutions, sub-optimal usage of multiple tools across the enterprise and creates saturation in bringing further efficiencies.

The complexity of the application landscape has only increased due to the need for co-existence of applications rendered on different topologies – from data centers on-prem, to private or public clouds of Amazon (AWS), Microsoft (Azure), Google (GCP) and the likes or SaaS by SFDC, Fusion, Dynamics etc.

Finally experience, be it the experience of the internal business users consuming the IT applications or more importantly the experience of the customers (end users) of the applications with expectations of anytime, anywhere availability and usage has become a competitive differentiator for enterprises.

All these factors have made it imperative for the enterprises to establish a structured framework to transform their application management. These factors not only radically enhance automation, but also increase the resilience and effectiveness of applications and significantly improve the experience rendered by the application landscape. The CXOs have started demanding the applications to align with business objectives and achieve better business outcomes. How do we address these demands and changes in expectations holistically and channelize the entire enterprise towards these common objectives?

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As Peter Drucker said – "What can't be measured can't be improved." So, at Infosys, we have created a framework for our clients to become NextGen AMS enterprises by fostering a continuous improvement solution roadmap, associated with tangible engineering and business metrics. The framework includes a simple four-step process as follows:

1. Assess the current maturity level of AMS within a client enterprise
2. Baseline the engineering metrics (and business metrics also if needed)
3. Identify and prioritize the value levers and solutions to implement, that can improve the metrics and elevate the maturity level
4. Implement the solutions as continuous improvement agile projects of 4-6 weeks sprints
5. Track and monitor the continuous improvement projects to closure and record the actual benefits incurred through improvement in metrics and elevation of AMS maturity level

This framework has the flexibility to be piloted in one application portfolio and then propagated to the larger client enterprise. Moreover, if the entire framework can be orchestrated on a technology platform like the Infosys Value Management (IVM) module of Infosys Live Enterprise Automation Platform (LEAP), it will make the process streamlined and provide a unified view of the progress across the enterprise from line managers to the executive leadership.

What is Infosys NextGen AMS maturity model

The maturity model looks at the entire application management holistically across the following four key areas:

1. Operating Model
2. Service Automation
3. Resilience
4. Business Alignment

The operating model tower looks at the process and people aspects of AMS – usage of ITIL, DevOps, existence of product mindset (which is foundational to make the application management business aligned) and the service delivery model itself (centralized, federated etc.).

The service automation and resilience towers look at the technology solution and tools for automation across different facets of application management like incident management, request fulfillment, event, and alert management, change management, problem management, availability and performance management, use of AIOps and Site Reliability Engineering (SRE) techniques for resilience and the approach to automation and remediation.

Finally, the digital world of future application management should be viewed from a business process and business KPIs perspective, in addition to the conventional IT SLAs and KPIs. Here we assess whether the application management is truly business value-centric or application IT-centric.

Operating Model	Service Automation	Resilience	Business Alignment

Maturity Level	Weighted Average Score	Level Description
5 Business-Centric	>4.0	Business KPIs monitoring, Business outcomes led, Product centric and autonomous
4 Autonomous	3.1 – 4.0	Zero touch powered by integrated platform and AIOps. Devops automation
3 Cognitive	2.1 – 3.0	AI led insights driven and powered by SRE and FSO
2 Platforms	1.1 – 2.0	Process wastage removed and fixes applied using Lean etc. People and process optimizations
1 Point Solutions	<= 1.0	Op. model and Tools standardized. Some automations in pockets

The maturity model assesses maturity across these four towers using a simple survey. It generates an empirical score for the maturity level of overall application management and also for each of the towers. The overall score of 1 to 5 denotes point solution led, platforms led, cognitive solutions led, autonomous solution led or business-centric application management as shown in the picture.

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How do we use NextGen AMS maturity model to set up a continuous improvement program to transform AMS

To build a comprehensive program and a solution roadmap, it is essential to have a solid understanding of the level you are in. The framework consists of four steps as descried in section 1.

Assessing the current maturity level of application management in your enterprise with the Infosys NextGen AMS maturity model and baselining the current metrics sets the foundation. This helps you in identifying the gaps and solutions to elevate the maturity level across the four towers of application management. The elevation of maturity will also result in a tangible improvement in the metrics. We have found a set of engineering metrics that you can begin with. The solutions will also make application management business-aligned, and result in improvement of business KPIs and business process metrics. You could choose one focus area for your enterprise or your application portfolio, add more areas later and expand the solutions. It is not necessary to address all the four areas right from the beginning. For e.g., If you want to focus on automation, as you believe that is an area you would be able to see some quick wins, then you could very well start off with it. You can accordingly prioritize the solutions to elevate the maturity of service automation for your enterprise, and then move on to resilience or other areas

Solution	Engineering Metric*
Zero-Touch AMS	% of tickets addressed through manual SOPs
	% of Ticket Reduction (due to self-serviced)
	% of Ticket Reduction (Due to Elimination)
	Zero Touch Ticket Automation %
	Partial Ticket Automation %
	Improvement in TAT %
	Improvement in MTTR %
	Bot to Human Ratio %
Resilient AMS	% of Application Availability Improvement
	% of alerts, anomalies that are proactively self healed thru automations
	% of alerts suppressed thru LEAP
Overall	SLA Adherence Improvement %
	FTE Reduction %
	% of Tickets auto created by LEAP (compared to total tickets)

The real value to client is realized when we implement **business aligned IT** to measure **business process KPIs** and **proactively prevent** any **business disruptions through Live Enterprise Application Management Platform (LEAP)**. Below is a sample for Life Insurance Domain

Business Function / Value chain process	Business process KPIs	
New Business	• New Quotes Received Per Product • New Policies Issued Per Product (Daily)	• Correspondence Communication Sent • Fast track Issuance cases (Daily) • New Business Processing Time in days
Underwriting	• New Quotes Awaiting Underwriter Assignment • InProgress Applications Awaiting to Receive	• Data/Reports from External/Outside Vendor (MVR Report/MIB Reports Etc.) • Underwriting Cycle Time

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Infosys Live Enterprise Automation Platform (LEAP)

All these are brough together in a unified portal on our NextGen AMS platform – Infosys Live Enterprise Automation Platform (LEAP).

This makes the whole framework integral to the NextGen AMS journey and solution roadmap and makes it more effective. The platform also suggests a set of initiatives that can be taken up to elevate the maturity in a specific area and associate these initiatives with operational and value metrics. You can estimate an improvement you could achieve in the operational and value metrics by implementing the initiative and set that as a target in the initiative planning stage. After the initiative is implemented, you can start measuring the actual improvement in the associated metric. This will also authenticate the elevation of maturity of application management in that specific area and dimension.

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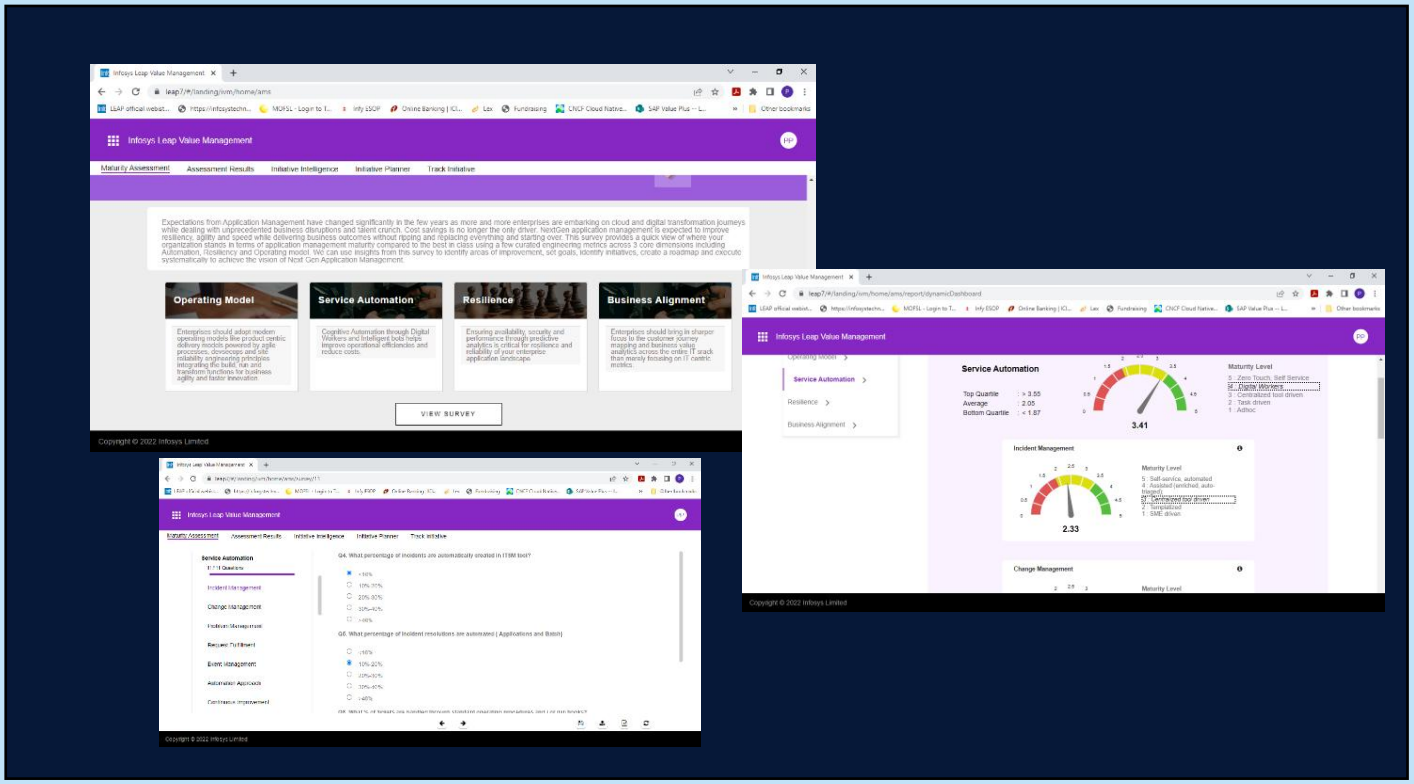
Conclusion

We have piloted this framework in 30 programs across Infosys and the initial results have been very encouraging. For e.g., With one of our manufacturing clients, automation has been identified as the area to focus on first. We have created a comprehensive roadmap to elevate the maturity level in automation to level 4 in the next 18 months and set the path to take it further to become a true cognitive first enterprise. Infosys Live Enterprise Automation Platform (LEAP) has helped to orchestrate and encapsulate this end-to-end journey in a single system giving a unified view of the transformation journey across the enterprise.



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