Best Practices: Infrastructure Management for Manufacturing Expansion: Mahindra & Mahindra Case Study

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BEST PRACTICES #AP8673906V

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OPINION

This IDC Manufacturing Insights Case Study talks about the Infrastructure Management Services (IMS) solution implemented by automobile OEM Mahindra & Mahindra (M&M), a conglomerate with a top line of US$16 billion. The corporate IT team of Mahindra needed a solution to manage the IT infrastructure for its datacenter operations supporting 90+ manufacturing plants, taking into account future business growth, including its mission-critical enterprise resource planning (ERP) run on SAP. The solution had to be scalable, cost effective, focused on continuous improvement when it comes to cycle time reduction, and of high quality. Tech Mahindra was the implementation partner.

Mahindra & Mahindra's approach of staying focused where its strength was (major decisions on technology platform, business processes, change management, long-term direction and targets) while having the right partnership in IT implementation areas, such as IMS automation, has helped it achieve its targets efficiently.

The solution implemented has helped M&M meet its goals after a transition period of two months and a stabilization phase of three months. Going forward, they need to ensure the model and solution are capable of scaling up for new plants or acquisitions and applications, with the same level of quality and better if not the same cost.
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IN THIS STUDY

This study talks about how automobile OEM Mahindra & Mahindra efficiently transitioned and managed the IT infrastructure needs of the business within the targeted cost, time, and quality metrics. The corporate IT team hosts a single instance of an ERP application catering to 90+ subsidiaries spread across 100+ countries with growth all the time. The infrastructure is hosted in three datacenters in India. Tech Mahindra is its partner in managing the operations of the IT infrastructure.

SITUATION OVERVIEW

Business Needs — Infrastructure Management

Infrastructure Outsourcing and Managed Services

Infrastructure outsourcing has been a key growth area for service providers (SPs) with the advent of cloud technology. What was once done in-house is now being outsourced. As per the latest IDC taxonomy, IS outsourcing services involve a long-term, contractual arrangement in which an SP takes ownership of and responsibility for managing all or part of a client's IS infrastructure and operations based on a service-level agreement (SLA). At the core of an IS outsourcing contract is taking over management of day-to-day operations at a datacenter and its systems infrastructure (either mainframe based or through a "server farm").

The two primary business needs Mahindra & Mahindra's IMS solution had to cater to were:

- Cost-effective scale-up of the infrastructure with no compromise on quality, keeping in pace with that of business growth, with the management planning for an aggressive expansion plan with mergers, acquisitions, and new plants, new applications and modules

- Transparent and efficient governance model — dashboards showing metrics, documentation for issues faced, their root cause, corrective actions taken, audit readiness
M&M's aggressive growth plans caused challenges for the IT infrastructure team and for management. Each new plant or merger would typically lead to a new project needing resources to plan, lead, execute, and support. This was not a sustainable model with head count getting added for no improvement in overall quality. What was required was a partner with experience in infrastructure management to efficiently manage the growth using technology, decoupled from head count.

Lack of a governance model meant no transparency for the leadership team on status of tickets. Monitoring tools were run from the vendor location with questionable metrics, lack of documentation, no proper root cause analysis, and lack of lessons learned documentation in case of unexpected events. Audit readiness was poor.

**Management Challenges**

Mahindra & Mahindra started its automobile journey in 1947 and is a conglomerate today in multiple sectors: automobiles, farm equipment, automobile components, aero components, hospitality, two wheelers, and real estate. Its IT backbone runs on two major platforms: SAP for manufacturing or support services and Microsoft for exchange, security, and communication. SAP is the foundation system for all transactions managed by the corporate IT team. By the time Tech Mahindra took up the IMS management, M&M had consolidated eight instances of SAP to one, implementing the "Harmony" project to standardize processes in a big bang approach across all business units. In 2004–2005, all servers across plants and business units were physically consolidated under one roof. In 2009–2010, the SAP instances were consolidated in a 7 to 8-month project. Mr. Ravindra Dhawan, GM, Data Centers and Mr. Rahul Khatare, Manager, IT explained the journey from an end-user perspective. Various vendors were evaluated before choosing Tech Mahindra after due diligence, including capability to automate and to move away from a people-centric operation.

For cost-effective scaling of infrastructure matching business growth, the management's challenge was to move away from a "people-centric" infrastructure management solution to a "platform-centric" solution. This would ensure that with each new plant or merger, new employees need not be added to the head count. Such a solution platform would ensure that knowledge residing with humans would move to most of it being retained by machines. A dashboard would give visibility at the CXO level on the overall health of the infrastructure and applications that run on it. Business requirements that were defined for the new infrastructure management service are:
● Move from "people-centric" management to a scalable "platform-centric" solution with automated solutions

● Documentation of issues raised, their resolution, lessons learned, metrics around them, and dashboards for their visibility and audit readiness

● Cost-effective solution keeping in mind the demand to move to "pay-per-transaction" model

● high quality service with a focus on continuous improvement

● All data, processes, and procedures in one central system

THE BEST PRACTICES

Implementation of Automation — Business Benefits

The implementation team has achieved the targets they were set when Tech Mahindra took up ownership of the IMS. Results today have been impressive. The following are the metrics that have impacted the business positively:

● Uptime of the center was consistently above the target of 99% with less variation.

● There was a 70% reduction in the cycle time to a few minutes, although the absolute effort remained the same for resolving tickets.

● There was a 30% reduction on overall running cost of the IMS center, primarily from optimized head count and efficiency.

● Customer Satisfaction Index improved 25–30% with an improvement in acknowledging the end-user issues, which was appreciated by customers. After a transition period of two months, Tech Mahindra took 3–4 months to stabilize.

● The transformation initiative for automation of end-to-end operation process instead of plain scripting

Outcome of the Implementation — IT Metrics

Apart from the measurable improvements and metrics felt by the business, the management was able to move the operations to "The Mahindra Way" from a quality culture perspective. The quality philosophy followed in manufacturing was expected to percolate to service delivery too — cost effectiveness, quality aiming for zero defects, transparency on health of a process, root cause analysis, and improvement plans in case of SLA violations, and others.
Operations process improvement initiatives achieved after Tech Mahindra transitioned the management of the datacenters to its ownership:

- Defining and streamlining patching calendar for software upgrades — (100% monthly patch compliance, 0% risk due to patch non-compliance, 100% effort saving for coordination and liaison for infrastructure patching)

- Role-Based Access Control (RBAC) for HP UX Infrastructure — (100% access traceability, 0% risk of intrusion)

- Memory (P/V) Monitoring, and so on

- Proactive Data Center Health Check using Datacenter Cockpit Flasher (DCF)

Service automation initiatives:

- Automated CIO Dashboard Update — (100% effort Saving, 100% elimination of dependencies, 80.25% time saving, 0% probability of schedule variance, 0% probability of human error)

- Process Automation for Service Request Management — 15 operation processes in service request management have been automated.

The implementation included leading practices such as:

A rule engine was used for customizing customer or sector-specific SLAs. Operations like identity access management (IAM) were customized and automated based on business rules of the customer. If new users need to be provided access, their user ID can be configured based on combinations of their first and last name as per the usual business standard, for example.

End-to-end automation of the ticketing process ensured an improvement in the SLA, capturing of the knowledge in the tools, and feeding of real-time data to a dashboard for senior management visibility. 70 new locations were added with no additional head count and increase in databases, storage space, and servers. Exhaustive documentation ensured that the team was ready for an audit anytime with documents to back up. The ticketing system was integrated with other tools removing any manual intervention and seamless of metrics of the system health.

Tech Mahindra's exhaustive service catalog with reusable components meant that the customer could pick up the right solution for them.
FUTURE OUTLOOK

With Mahindra & Mahindra set to grow while keeping the cost flat, the corporate IT team needs to keep leveraging the improvement opportunities and automation to manage more and better with the same resources. There is a push on the IT team from individual businesses to move to a cost model where they pay per transaction with cloud type of solutions. User expectations are ever increasing with the application portfolio expected to expand. The team needs to keep in sync with latest technology trends such as mobility. With the management having an aggressive growth outlook in terms of new units, plants, users, applications, and expectations, the IMS solution should be scalable with no degradation in performance.

ESSENTIAL GUIDANCE

Actions to Consider

There are some key takeaways for manufacturing firms looking at IMS from this case study:

- **Approach to change management.** The M&M management's approach in dealing with change for a large conglomerate has helped it in successfully rolling out an enterprise-level IT consolidation, standardization, and change. There was senior-level management buy-in and push for standardization of business processes. At a corporate level, the decision was taken to have a two-platform infrastructure — SAP for ERP and related needs and Microsoft for communication, exchange, and security. Beyond this, each business unit was given the freedom to select their applications; for example, a CRM application for front ended with customers, as long as it was integrated with the backbone central SAP.

- **Strong partnership with IT domain experts.** M&M took the lead where it was strong in terms of major decisions on IT platforms, overall direction or road map, vendor selection, and business metrics. When it came to implementation, its focus was limited to business process reengineering and standardization, driving change, and so forth. It gave a clear mandate to its implementation partner Tech Mahindra on what was to be done on the IMS side. The implementation of the automation was left to Tech Mahindra to implement.

- **Focus on automation.** For a business-facing growth prospects in terms of new units, plants, users, and applications, it made sense to move away from a linear "people-centric" model to a "platform-centric" model with automation where possible. This model will ensure that costs are within control with less sources for errors.
LEARN MORE

Related Research

- India IT Services 2012 Analysis and 2013–2017 Forecast (IDC #IN2577418V, August 2013)

- India IT Services Market 2010–2015 Forecast and Analysis: Future of End-to-End Outsourcing in India (IDC #IN2577401T, November 2011)

Synopsis

This IDC Manufacturing Insights Case Study talks about the infrastructure management services (IMS) solution implemented by automobile OEM Mahindra & Mahindra, a conglomerate with a top line of US$16 billion. The corporate IT team of Mahindra needed a solution to manage the IT infrastructure for its 90+ manufacturing plants taking into account future business growth, including its mission-critical enterprise resource planning (ERP) run on one instance of SAP. The solution had to be scalable, cost effective, focused on continuous improvement when it comes to cycle time reduction, and of high quality. Tech Mahindra was the implementation partner.

"M&M's approach of staying focused where it is strong and leaving the implementation to its partner Tech Mahindra has been a key factor for the implementation to be successful. Senior management's buy-in and push for standardization of processes helped implement the enterprise-level change from a top-down approach and lay a foundation. At the same time, individual businesses were provided independence to build their own local applications on top of the foundation," says S Ramachandran, research manager, IDC Manufacturing Insights Asia/Pacific.
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