

IT Service Management: The Cornerstone of Superior Customer Experience

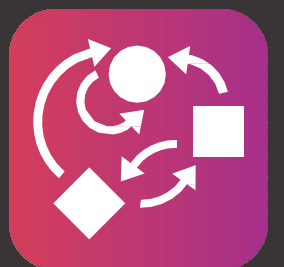
Banking, Financial Services and Insurance



PURPOSE-DRIVEN

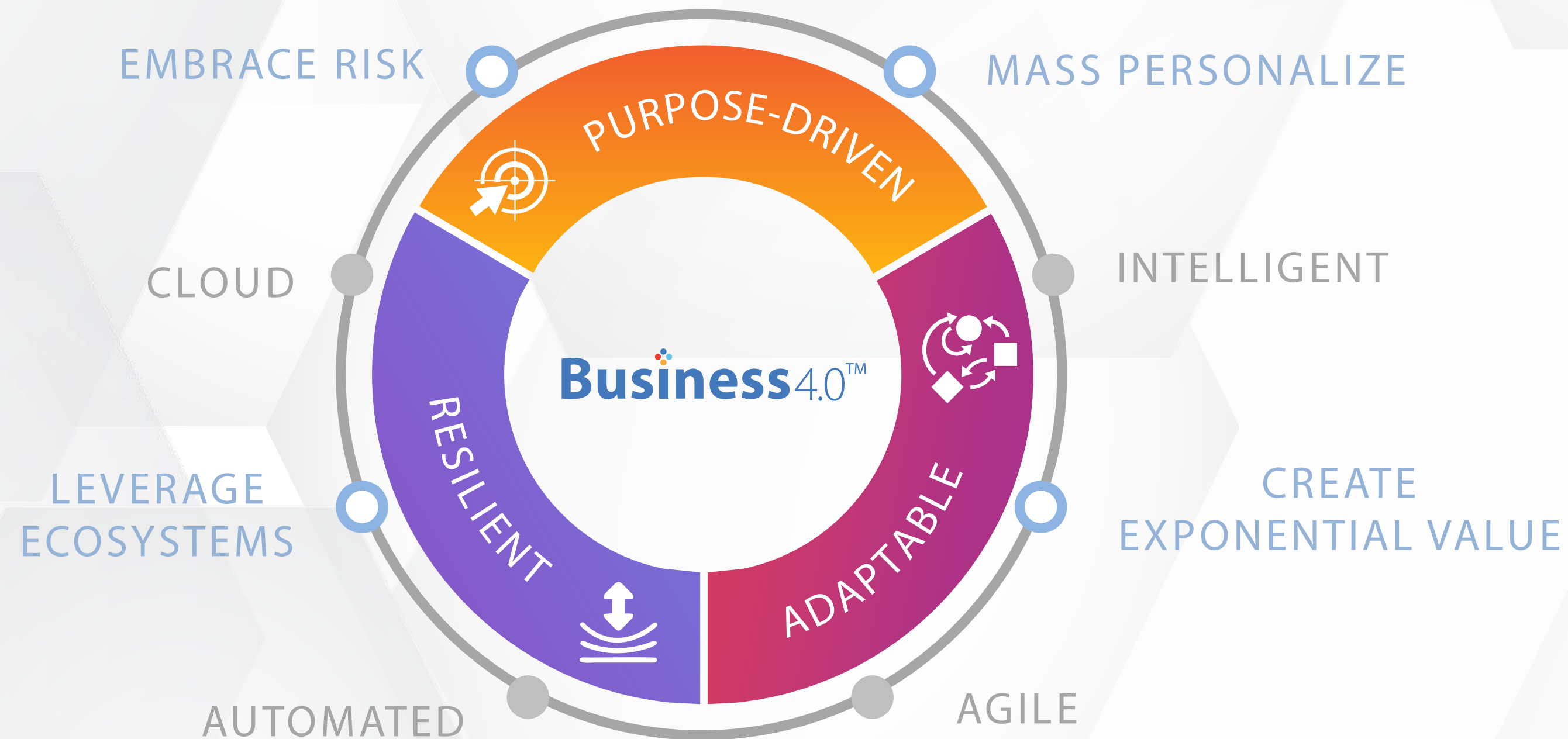


RESILIENT



ADAPTABLE

PURPOSE-DRIVEN, RESILIENT, ADAPTABLE BUSINESS 4.0™



About the Author



Rajesh Ramarathinam

Rajesh Ramarathinam heads the US South East and LATAM businesses of TCS' Banking, Financial Services, and Insurance (BFSI) unit. In his tenure of nearly 24 years at TCS, he has been engaged in conceptualizing and delivering multi-million-dollar transformation programs for some of the largest global financial institutions in the UK, the US, LATAM, APAC, and ANZ. He has wide experience in retail, investment banking, and life and pensions. In his current role, **Rajesh** is responsible for P&L operations, customer engagement, and delivering profitable revenue growth for global banks. He holds a Master's degree in Computer Applications from Bharathidasan University, Trichy, India, and a degree in Cost and Management Accounting from The Institute of Cost and Management Accountants of India.

Executive Summary

An effective framework for measuring the efficiency of production support has always existed without its relevance ever being questioned. Service management, in the context of supporting IT systems that enable customers to consume products and services, presents a unique opportunity to achieve world class service standards. Many organizations are realizing the role that IT service management can play in improving the quality of end-customer service, and this is driving a paradigm shift in how service management is perceived.

From a CIO standpoint, many organizations have production support that defines run activities for application and infrastructure support functions, which perform similar operations. However, the dependencies are so tight that an end-to-end view is an imperative to deliver outstanding customer experience. Service management builds the foundation for delivering this holistic view. One of the key objectives of service management is to adopt an operating model for application (and infrastructure) production support by balancing the responsiveness of the business domain with the quality and maturity of a more functionally aligned model.

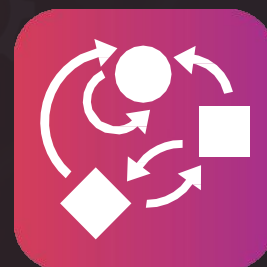
Ensuring top notch service is an important measure of success. And it is especially relevant for the global financial services industry given rapid shift to digital channels, growing customer demand for instant and always-available banking, and regulatory pressure on financial institutions to ensure high standards of service management amid the complex service chain. This white paper examines how improving the maturity of the service management process while simultaneously reducing the risk associated with IT services will help financial institutions improve IT service performance, in turn enhancing end-customer experience.



PURPOSE-DRIVEN



RESILIENT



ADAPTABLE

Today's customers expect seamless availability and performance of banking services. Service quality is never coincidental. It's simply the product of the maturity at which we operate and the level of risk inherent in our environment. Recognising Service Management as a professional practice is the first step. Then, it's through establishing the right operating model, capability, and culture that we attain the standard of maturity and level of risk needed to achieve a markedly improved and sustainable level of service quality at a lower cost of operation.

posted Craig Bright,
Westpac Group Chief Information Officer
on Wednesday, 22 September, LinkedIn.

The Changing Business Landscape

Financial institutions are going in for rapid digital transformation, modernizing heritage systems and opting for digital customer engagement models. The explosion of data in a highly connected world is teaching organizations smarter ways of doing business. By leveraging the power of artificial intelligence (AI) and machine learning (ML) backed automation, financial organizations are analyzing humongous data to garner critical insights. The coordinated application of digital technologies, cloud computing, and data and social analytics, demand an enormous level of maturity in the IT service management space underscoring the need for a dedicated service management function. Increased digital adoption coupled with growing customer demand for online services, especially during the ongoing COVID-19 crisis, further underscores the need for a discrete service management function.



Delivering service management goals once is pioneering, delivering it again shows excellence, but adopting it as a practice sets an organization apart as a benchmark.

In almost every industry, though the internal technology landscape is unique, the need for service management is emerging as an immediate imperative. For institutions to be successful in this massive transformation, strong belief in the service management philosophy, perseverance for and focus on the final outcome, a service management strategy aligned to the organization, execution rigor, and discipline are key factors (see Figure 1).

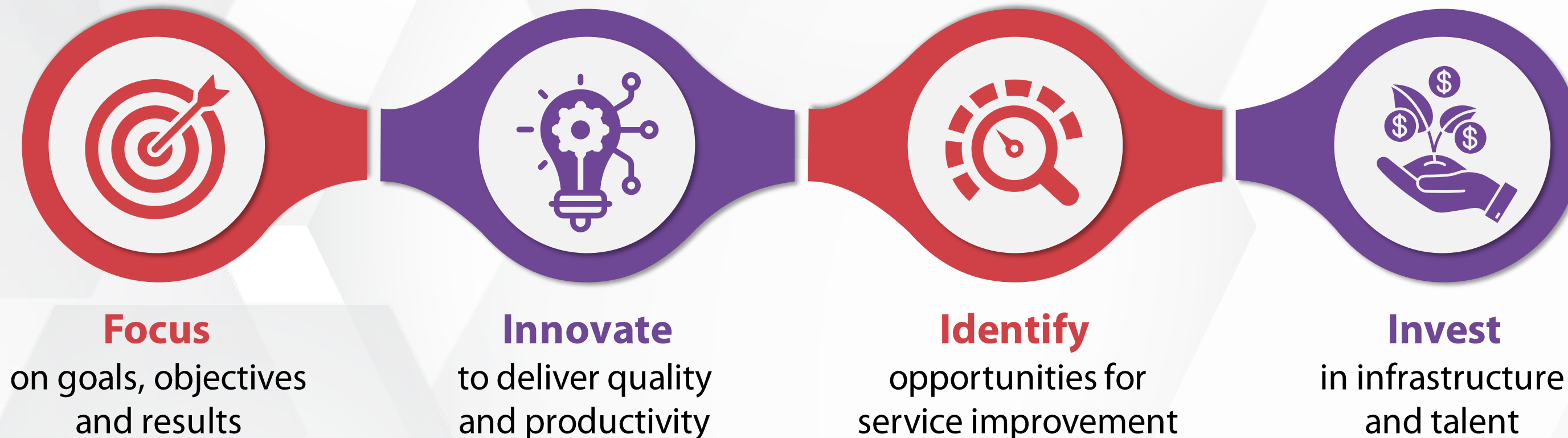


Figure 1: Priorities for Effective Service Management

The Current IT Service Landscape

In many organizations, the production support function is embedded in the IT shop with the focus limited to 'keeping the lights on'. Similar activities are performed across the organization and assigning accountability is a challenge. Organizations face challenges in establishing a correlation between the effort and money spends and the quality of service rendered resulting in lack of transparency in managing the production support function. Furthermore, organizations are under pressure to cut costs and ensure that tenured staff with knowledge of the IT landscape stay with the firm. Lack of knowledge of the IT service landscape can be a huge barrier while setting up a process- or data analytics-driven service management function. Production support staff are largely seen as 'fire fighters' and often tasked with restoring service while the organization continues to engage through multiple communication channels. In most organizations, the production support function operates with an 'all-hands-on-deck' approach to resolve incidents and events, which is a huge drag on costs and does not ensure cost accountability. The situation is further compounded by shrinking IT maintenance budgets despite more and more applications moving to production. The service management model offers CIOs at financial institutions an opportunity to reduce IT support costs and improve service quality by ensuring the right level of investment, leveraging subject matter experts, and imbibing best practices from peers. Such a model would function as an integrated and accountable organization for efficient IT service delivery to stakeholders across the organization and the provision of superior experience to end-customers.

Transforming IT Service Management

A service is a set of integrated applications and infrastructure components that can be classified into business service and infrastructure service. A business service supports a related set of customer interactions (mobile, ATM, point of sale) or internal business activities (credit card application, loan modification, KYC verification). An infrastructure service, on the other hand, provides critical functional support for more than one business service. By defining these services as applications and infrastructure, a transparent view of components within the services is available for building the right capability for those functions. We propose a three-step process (see Figure 2) for building a service management function.

To reimagine applications and infrastructure components working together as 'services', organizations will need to determine where and how money and effort should be channeled to build world class service capability.

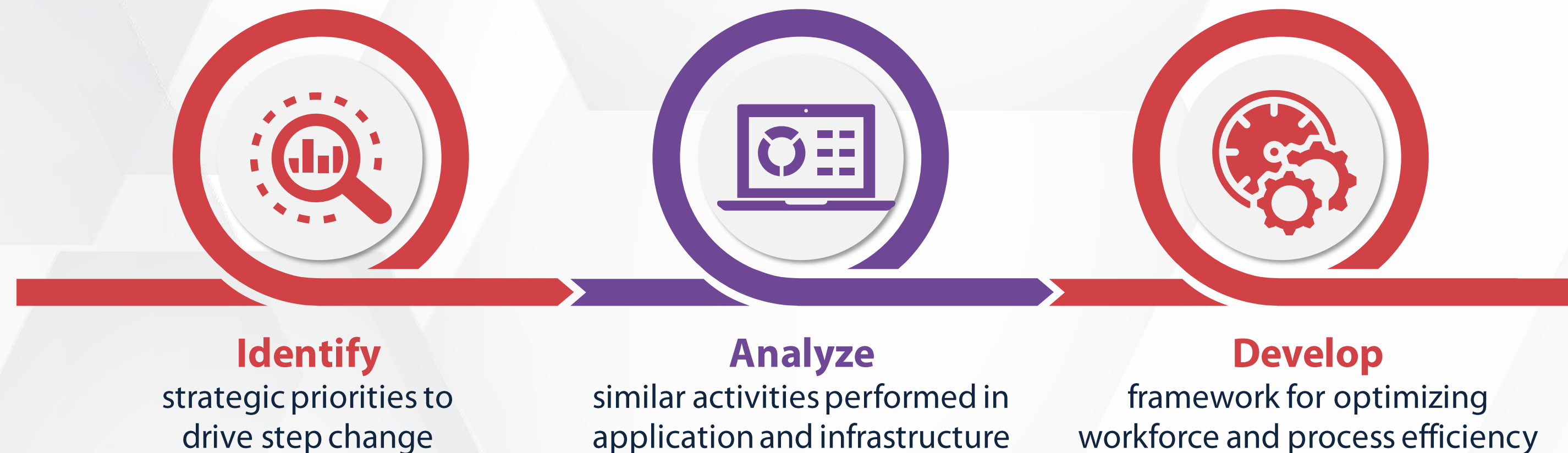


Figure 2: Approach to Build the Service Management Function

Defining an IT service management strategy

In the context of production support, delivering 'service' is an opportunity to visualize problems from customers' perspective and take steps to ensure satisfactory outcomes for customers. A caring or service mindset is critical to delivering exceptional service. Institutionalizing it by replicating it across the IT service organization will render the capability to deliver something more complex and make world class service a reality. Adopting a systematic approach to IT service management built on the service mindset can also help improve the maturity of practices and the risk profile of end-to-end services, resulting in enhanced service quality. To support that, organizations must start developing metrics that measure the maturity and quality of service along with the overall performance of the service management organization.

Before defining the IT service management strategy, organizations must define the different service levels for clarity. From an application support perspective, levels L0 to L3 relate to 'eyes on glass' monitoring, routine and scripted activities, resolving end user problems, triaging routine issues, and performing health checks. Other activities that come under L0 to L3 levels include post implementation validations, proactive and predictive measures, break-fix and corrective maintenance, incident and problem management, and addressing unique and complex problems (L3) and release management. While all these are defined at various levels, the principles of service management track shift-left performance, ticket flow, execution costs, and total support cost accountability to deliver on efficiency targets.

When defining the IT service management strategy, organizations must pay attention to some key aspects.



Adopt a process maturity model that incorporates industry best practices coupled with contextual knowledge of the IT landscape and systems helps accurately assess process maturity and identify poor practices. Processes are assigned maturity levels ranging from 1 to 5 (adhoc, repeatable, defined, managed, and optimized) to help plot a path to achieving higher maturity (see Figure 3). Critical reviews are performed to identify new opportunities and areas for improvement.

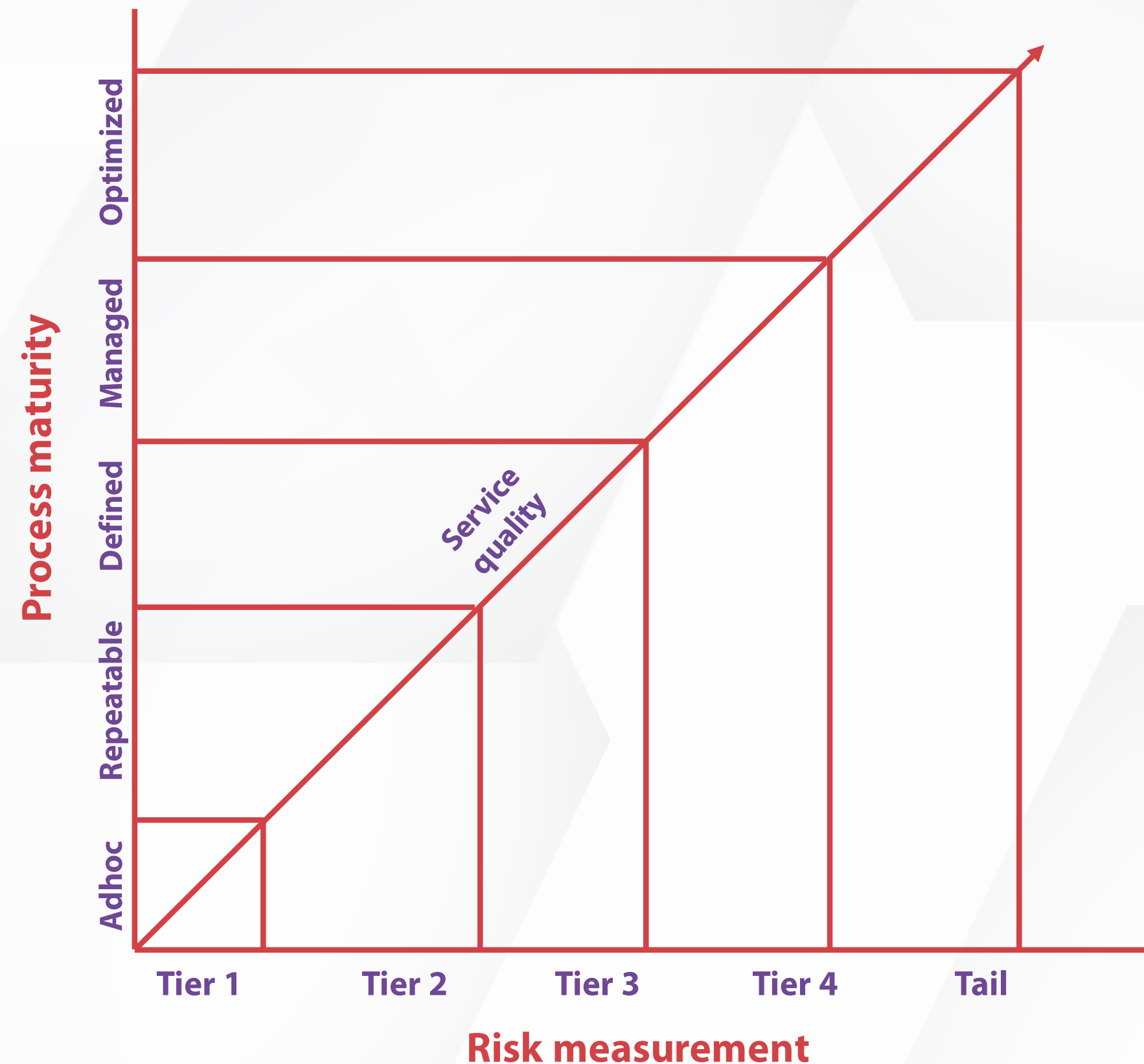


Figure 3: Service Maturity versus Risk



Adopt a standard risk assessment model to assess risks early. Additionally, define a framework to support discovery of all risks that have the potential to affect service quality – the output from the model serving as a key input to the service improvement program (see Figure 4). Assessing process maturity and risks help in keeping the environment stable and resilient.

	Very Low	Low	Moderate	High	Very high
Significant	Tail	Tail	Tier 2	Tier 1	Tier 1
Severe	Tail	Tier 4	Tier 3	Tier 2	Tier 1
Moderate	Tier 4	Tier 4	Tier 3	Tier 3	Tier 2
Low	Tier 4	Tier 4	Tier 4	Tier 4	Tier 3

Figure 4: Risk Scoring Model

Designing the right operating model

The next step is to design an operating model that fits the organization. A simple five-step process (see Figure 5) can help understand the productivity opportunity. For example, running pilots within a specific part of the business can help evolve the model to fit other businesses within the organization.



Validate the framework for your organization and assess the productivity opportunity.

Figure 5: Designing the Operating Model

A service aligned operating model requires adherence to critical operating principles such as domain accountability, externalization of knowledge, low execution costs, common process framework, and implementing controls and processes to prevent downtime and problems around availability and risk management (see Figure 6). Each level of support is measured according to its service responsibilities executed through the common process framework and tools. Levels 0 to 3 have distinct responsibilities. Core processes around service level agreements (SLAs), availability, change, incident management, knowledge, and continuity need to be structured to ensure daily operations are consistently measured.

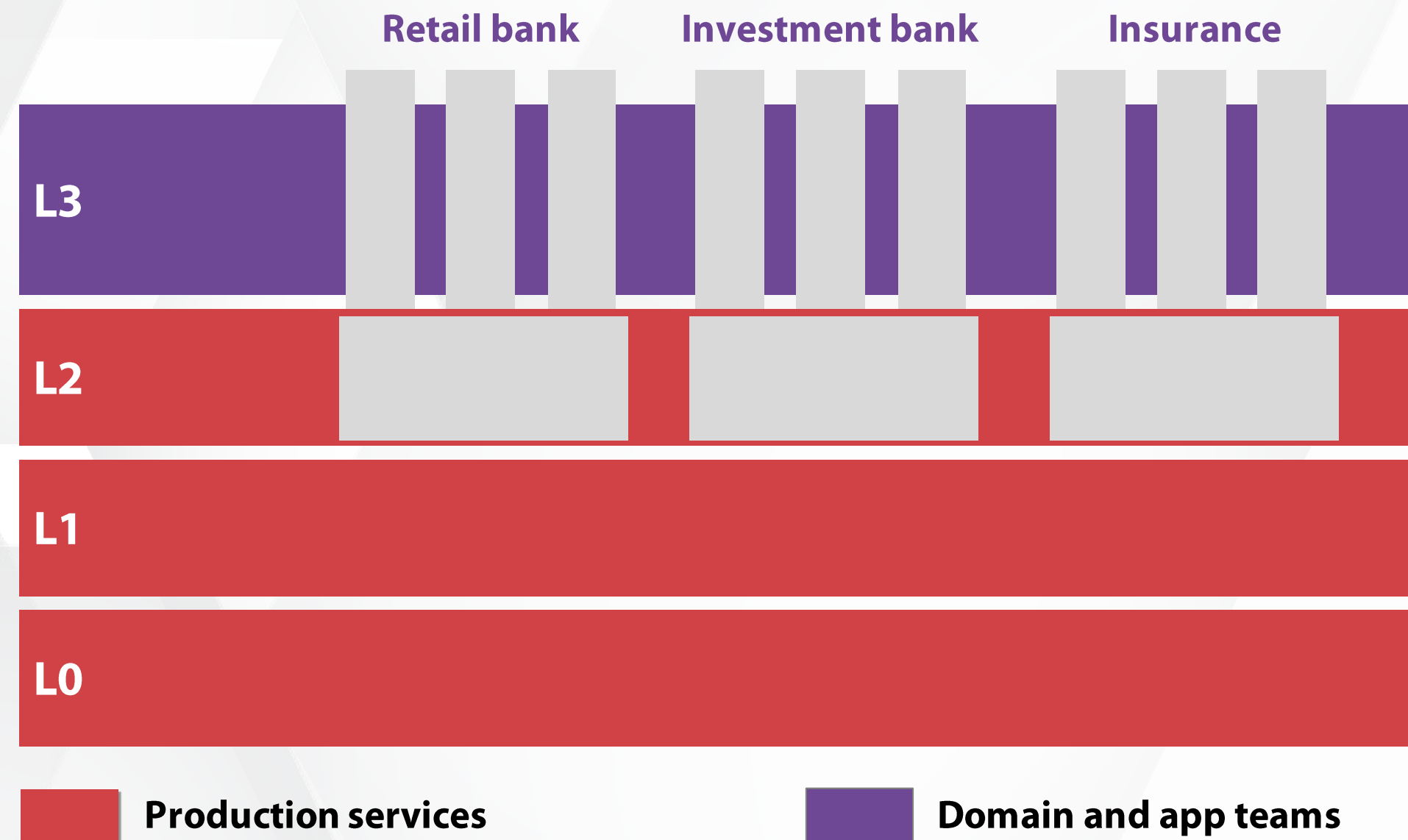


Figure 6: Service Management Operating Model

Ensuring high service quality

Delivering quality IT service through an IT service management strategy will require a high degree of intelligent technology backed automation to ensure execution discipline, better user experience, and proactive event and incident management (see Figure 7).



Figure 7: Key Elements of Service Operations Transformation



Data analytics

Tickets and alerts data provide insights that can be leveraged to identify improvement opportunities. Proactively identifying and fixing problems can help eliminate events and incidents thereby improving stability. Superior knowledge management expands runbook automation while exploiting additional tool features and improving tool integration and configuration enable better and faster resolution.

A data analytics driven approach will enrich customer experience while service performance will improve, leading to reduction of high severity and change-causing incidents. This will enhance team productivity, enabling them to focus on enhancing rigor in tool development to further eliminate L0/L1 incidents. Readiness assessment for a new application or service release as it transits from the build environment to the run environment ensures early engagement of the service management team during the build cycle. It identifies and mitigates high risk items from non-functional requirements. Applying ML techniques to incident and event data can enable predictive analytics and modeling, based on which, a change excellence process can be instituted to prevent incidents in the production environment. Coupled with a customized change risk scoring model, this can help deliver top notch service.



Evolving talent priorities

Rapid digitalization has changed the staffing model and skill sets. Diverse interactions on multiple channels have shifted focus to the outcomes such as automation and AI Ops and ML backed predictive analytics that need to be achieved. As a result, the talent ratio in service management has shifted to accommodate the influx of the digital technologies; in our experience, developers constitute ~ 30% of the team, data analysts account for 15 to 20%, while 10% of the team focus on AI Ops technologies and tool sets needed to achieve automation targets. Elimination of redundant tasks via automation becomes a priority as technology adoption rises in organizations.

Working in the 24*7 production support function is not a preferred job and most organizations face challenges in attracting and retaining quality talent. To address this, organizations will need to define a career path for individuals as they tenure within the organization. With new challenges emerging from digitalization and data explosion, organizations must look at creating new roles to retain engineering talent. Rotation between different types of roles helps retain contextual knowledge and brings rich experience. Additionally, organizations must adopt shift-left automation to drive efficiencies.



Automation

Enhancing automation deliverables such as chatbot deployment, dynamic reports, severity prediction models, and analytics-based mainframe utilization forecasting will help shape the talent model to attract and retain talent. Continuous service improvements not only reduce incidents but also relieve stress on people allowing them to focus on preventive and proactive aspects of delivery.

With the use of multiple automation tools across platforms, a lot of time is wasted in collecting inputs from one tool and performing actions through other tools leading to higher turnaround time (TAT).

The manual intervention required to detect alerts in one tool and determine further actions in other tools often results in errors. In addition, execution by support personnel with differing skill level leads to incorrect or delayed recovery. Frequently, the iterative triage effort from front to back results in anywhere between three to four troubleshooting hops. Organizations should consider building an intelligent mediation layer that automatically identifies patterns from tickets and adopts a Machine First™ approach to analyzing the ticket journal. This helps to reduce the time spent in analysis at different layers (front-end, middleware and back-end) and decrease the TAT.



Work estimation model

In the absence of an industry standard tool to determine required effort, investing in an algorithmic estimation model based on function points helps ensure accurate work estimation (see Figure 8). The model considers various inputs to derive reasonably close estimates thereby providing transparency in a multi-entity setup. Over the years, this estimation model has emerged as one of the most widely used techniques within the service management framework.

Derived measures	Portfolio	App count	Complexity factor	Consumption factor	Support factor	Tickets and/or app	FTE/app	Tickets/ FTE
	Business 1	176	1.47	0.98	1.44	31.03	0.72	42.84
	Business 2	217	1.66	1.09	1.81	22.06	0.69	31.75
	Business 3	288	1.72	1.04	1.79	25.25	0.62	40.50
	Business 4	57	1.23	1.34	1.64	23.97	0.61	39.16
	Overall	738	1.60	1.06	1.70	25.59	0.67	38.33

Figure 8: Indicative Output and Benefits of Using an Algorithmic Work Estimation Model



Monitoring

Service management complexities will continue to increase due to inconsistent levels of application development standards, lack of strong CI/CD setup, rapid evolution of next generation architectures, and growing cloud adoption. Hybrid environments and siloed IT infrastructures across production environments will increase the need for enhanced monitoring capabilities to ensure overall service availability and performance. Strategic tools should be deployed to ensure mature monitoring capabilities. With the advent of ML algorithms, organizations can drive a shift from 'eyes on the glass' monitoring to leveraging predictive modeling and self-healing tools in intelligent command centers. Deriving insights from operational process data can help create heat maps of process breaks. And finally, to improve production availability, a structured approach focused on proactive production operations must be adopted.



Detection

Event correlation has huge potential to detect incidents early. Data generated by IT components on events across multiple layers helps to correlate events and determine the holistic impact. Automated analysis and recovery can be enabled AI models that analyze the technical data to generate actionable alerts. Recovery procedures for routine events can be automated. Leveraging predictive analytics and dynamic thresholds can help predict future metrics for measuring performance. The predictions can then be used as a basis for alert thresholds in turn preventing false alerts. Setting up dynamic thresholds that can be adjusted in real-time ensure stability.



Service management platform

While implementing a service management platform, organizations must consider critical aspects such as incident reduction, lower resolution duration, better service management maturity via improved monitoring, and creating runbooks and playbooks to reduce effort and system resources. In addition, moving the first level response or event management to a pool of support personnel staffed in a cost-efficient location (service command center) and enabling thorough scripting of required response and/or automation are also top priorities. To achieve this, concentration of events into a central command center and creating a common service management platform that allows movement of work across multiple locations and teams will be critical. Event

correlation and monitoring tools help consolidate events; however, some market tools come with high costs, low flexibility in the integration and configuration of application programming interfaces (APIs), and pose challenges in the provision of support within the environment. Seamless problem and incident resolution, efficient change and service desk management, automation of reporting activities; effective approval workflow and movement of tickets across locations and teams are other key benefits of a common service management platform. Some mature tools offer analytics driven service delivery; however, care should be taken to avoid vendor lock-in across tools, technology, and people to enable transparent as well as auditable service integration.



Financial productivity levers

Based on our experience, we believe that adopting the right operating model and mature service management practices coupled with disciplined execution can deliver productivity gains of around 20-25% (see Figure 9).

Experience level agreements (XLAs) and SLA driven models have matured over the years which will further strengthen financial productivity as well as cost transparency and predictability. In our experience, ploughing back a certain percentage of productivity benefits into tech investments deliver better return on investment (ROIs) in subsequent years. Some organizations have given higher weightage to service quality over cost premium, and the decision to adopt outcome (in terms of performance standards) focused delivery models has paid off in the long run.

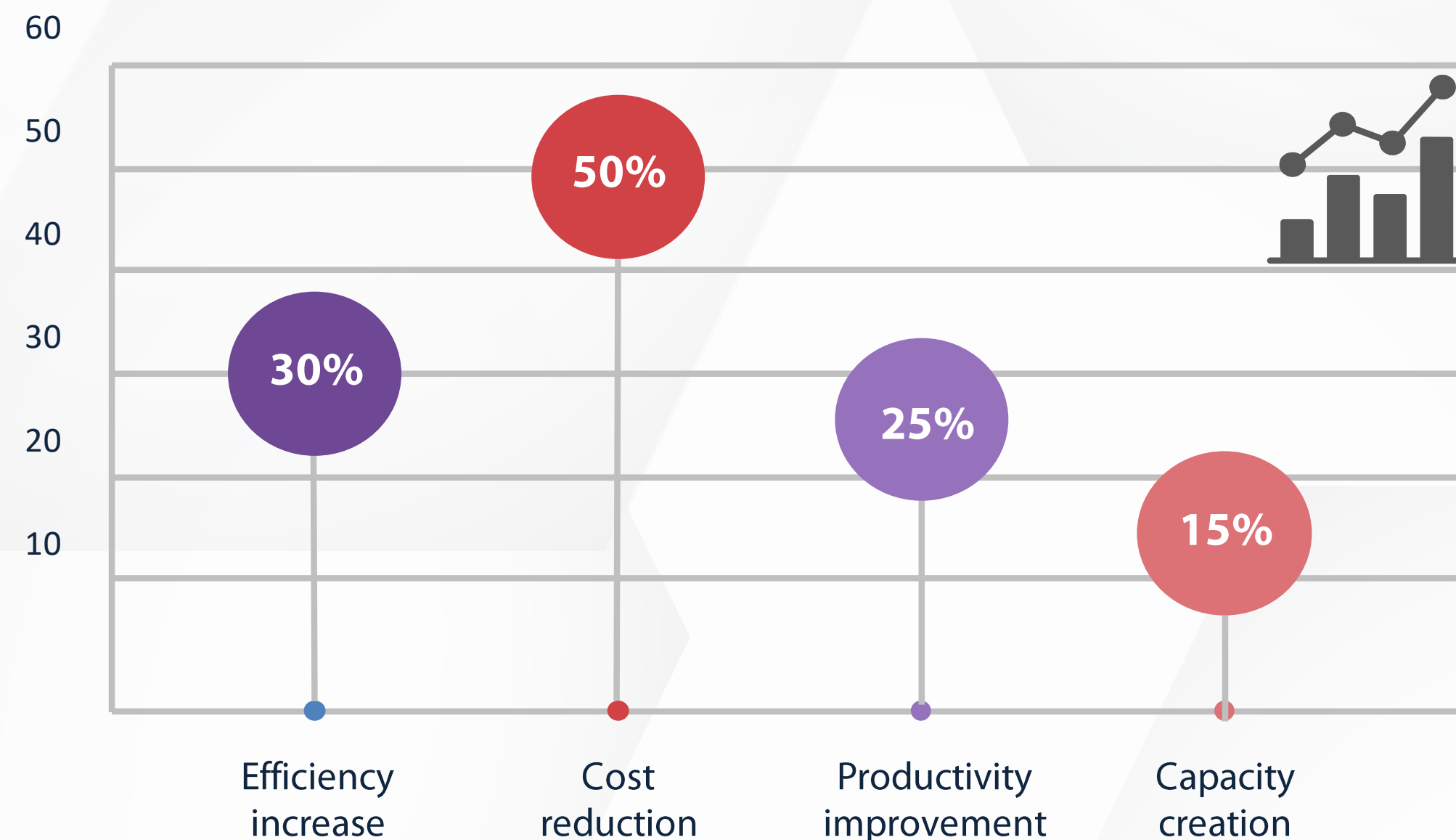


Figure 9: Potential Business Value from the Service Management Model

Driving robust partnerships

A mature service management function revolves around resolving incidents and quickly restoring service as well as avoiding incidents, analyzing and fixing the problem, evaluating changes to production and analyzing their impact, and assessing risk to prevent outage and drive informed decisions. Achieving the aforementioned goals helps organizations ensure a high degree of process maturity. An organization's leadership must undertake the responsibility to overcome challenges in heterogeneous environments, regulatory restrictions, and mismatch in business culture. So, the partnership between business stakeholders and the IT function is vital to ensure early and sustained success. Building world-class service management capability requires a strong partnership between business stakeholders, IT teams, and especially partner organizations that passionately share the service mindset and invest in establishing and maturing the service management model. Laying down SLAs around **cost and productivity** play an important role measuring the commitment of all the stakeholders to achieve defined goals and objectives. In addition, **innovation**, predictive and/or proactive effort, cost management, and continuous improvement in service performance are important measures of success. Service management also requires a **resilient operating model** with infrastructure investments to meet the 24*7 demand. So how will this evolve in the near future?

Case-in-point

For a leading US bank, we implemented a service management model to deliver mature levels of service quality and performance as well as exceptional end-customer experience.

We are partnering with a large Australian bank, to drive their service management transformation journey. The bank is already seeing early benefits such as high service availability, improved customer experience, and quick service restoration.

An organization that is committed to delivering high-quality customer experience should invest equally in service management capabilities as they do in product management. In the 4.0 digital revolution world, customer expectation changes frequently and meeting that expectation requires continuous service improvements. The service model should be able to keep pace with technological developments, customer expectation and regulatory demands. Any operating model that has the ability to cover this stretch and provides coverage from reactive to proactive to predictive factoring the service risk will be better placed to stand the scrutiny of any disruption and test of time.

Dhana D,

General Manager, Service Management and Chief Information Officer,
Asia Westpac Group

Moving to a future-proof, machine-first paradigm

The pursuit of service excellence should depend on a disciplined approach to finding the root cause of problems and avoiding their recurrence. Assigning higher weightage to avoidance compels operations teams to shift their focus from a reactive approach to a proactive one. This paves the way for the adoption of solutions centered on incident and event prevention. Thematic analysis during problem management reviews enhances the quality of problem-solving techniques, as engineers and data analysts evaluate the logic behind several thousands of lines of code. Tools to be deployed to solve problems and proactively address issues to eliminate potential problems (see Figure 10).

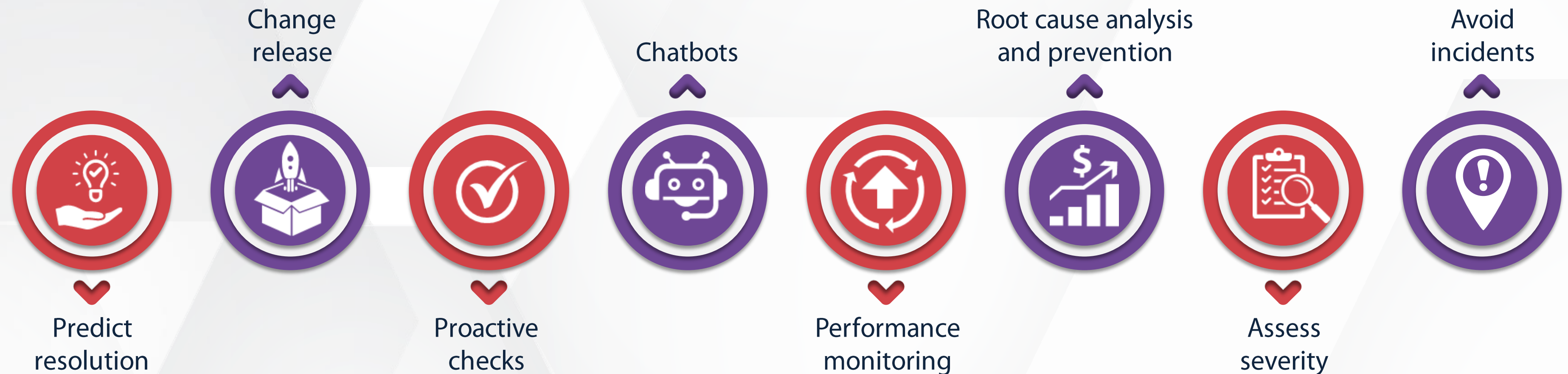


Figure 10: Channelizing Effort toward Prevention and Prediction

The basic objective of these tools is to have machines perform the first set of actions before an engineer is engaged. For instance, tasks like automated health checks, dynamic report generation, and forecasting impact of changes getting released into production environments rely interpreting humongous data, which is currently a human intensive task requiring human judgment and knowledge. However, these tools can evaluate patterns without extensive contextual knowledge about client systems and automatically extract inputs from analytical tools like ServiceNow, AppDynamics, Splunk and other market tools with an API interface.

Chatbots have gained huge traction in operations environments especially in the context of the 'always-on' banking model currently in vogue. Chatbots help ensure secure, instant communication during and after incidents. Integrating real-time analytics into chatbots provides accurate and consistent information on incidents, problems, and changes to the stakeholders within the organization.

The Way Forward

As the COVID-19 outbreak continues to rage across the world, the need for providing 24*7 service through a remote working model in sectors like financial services will be greater than ever before. Organizations are constantly evaluating the resilience of their models in the light of the continually changing situation and initiating action to adapt to market shifts as well as macro-economic conditions while ensuring uninterrupted service delivery.

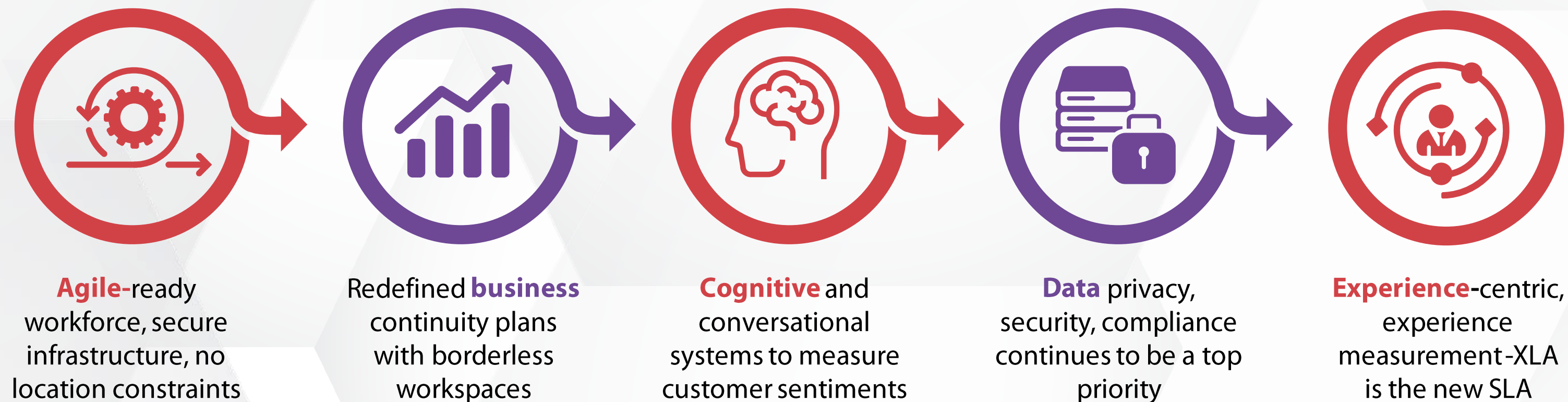


Figure 11: Reimagining Services for a Post COVID World

With the remote work model likely to emerge as a somewhat permanent feature of the next normal, the need to replicate the ring-fenced, secure setup will rise (see Figure 11). We believe that financial organizations that proactively rehaul their IT service management function will be in a stronger position to keep pace with increasing customer demand for remote service and exceptional experience in turn gaining an edge over their peers.

Contact

For more information on TCS' Banking & Financial Services, please visit <https://www.tcs.com/banking-financial-services>

Email: bfsi.marketing@tcs.com

About Tata Consultancy Services Ltd (TCS)

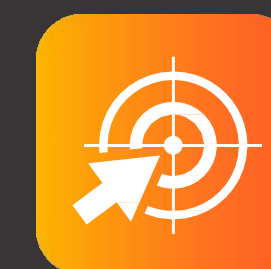
Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match.

TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

For more information, visit us at www.tcs.com

All content / information present here is the exclusive property of Tata Consultancy Services Limited (TCS). The content / information contained here is correct at the time of publishing. No material from here may be copied, modified, reproduced, republished, uploaded, transmitted, posted or distributed in any form without prior written permission from TCS. Unauthorized use of the content / information appearing here may violate copyright, trademark and other applicable laws, and could result in criminal or civil penalties.

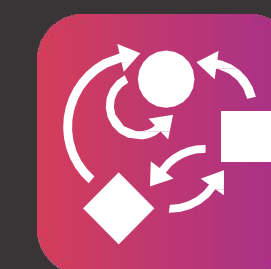
Copyright © 2020 Tata Consultancy Services Limited



PURPOSE-DRIVEN



RESILIENT



ADAPTABLE