



Reshaping the NOC organization

Service-enabling network operations transformation





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The critical factor

Operations support system (OSS) and network management operations are at the core business of any Telco operator. Whether you're launching a new service or technology, merging multiple networks and geographies, managing the factor of scale while following business growth, or addressing a changed operational model by outsourcing the service and network, OSS is a critical factor.

It is the area where competencies struggle the most, and have to be handled with care during any transformation program to avoid loss of know-how and experienced people. Meanwhile, don't stop change; continue improving your efficiency and driving operating expense (OPEX) costs down.

Doing this with a holistic approach—linking together the way your organization, processes, people, and technology are aligned to the same principles and objectives—is a key factor for a successful and controlled transformation. And getting you to your next level of operational capacity.

Business-driven operation transformation

Business transformation programs need a solid financial and business justification, so it is very important to position your initiative in the context of your business drivers. Most strive for cost reduction and organization optimization, especially in the context where Telco operators manage service with flat revenue growth in a stable market.

At the same time, pressure from competitors may introduce different factors in the business context. This is where a differentiator in strategy pushes in different directions. Starting from pure optimization, the strategy introduces new services—as new technologies enter the market, for instance, LTE. Different ways to do old things may also emerge—as new business models are possible due to reshaping of market strengths and players, merger and acquisition strategies, reshuffling in the geographies, and so on.

Transformation also goes in the direction of innovative services plus business model; where reshaping the service operations organization comes together with introducing new services. This cycle of pure innovation then comes back to the next cycle of optimization to move on the next level of improvement in the service evolution.

From this landscape comes three main examples of business-driven operation transformations:

- Cost reduction and efficiency-driven transformation
- Service-driven operation transformation
- End-to-end service management

Transformation in operations usually focuses on an operational model that is behind technology management. An example of this is the need to merge network management and IT. In particular, with struggling network operations, more and more of them are evolving into a single operational model because of market evolution—such as all IP networking, and an increased focus on value-added services and over-the-top business models.

How operational support is reshaped is determined by what technology allows and what the network and IT departments can provide, together with the organization's maturity level. The organizational model, and its corresponding capability to release and support what the customer was offered, is determined by the technical aspect, and market and product needs.

Roadmap to service operations future state

As business principles and technology and market drivers power transformation, efforts to developing a transformation strategy should be more conscious and specific—just as improving your maturity level is an evolutionary and not revolutionary approach. Building your next level

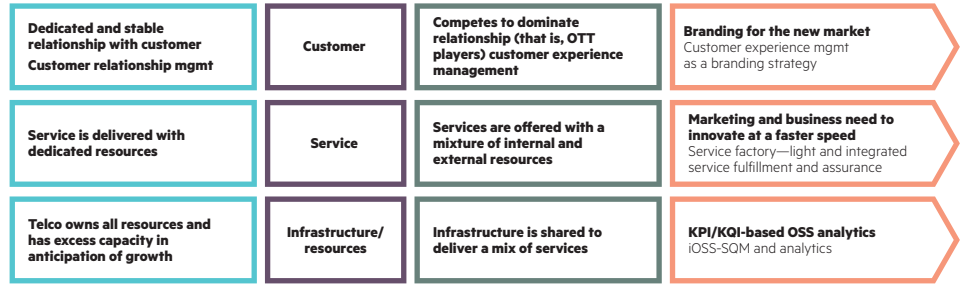


Figure 1: Business challenges

of people, organization, process, and technology capabilities must bear in mind all the steps needed to accomplish and build any new capability layer on top of your consolidated and solid framework and infrastructure.

Each driver in the identified transformation model leads to a different journey:

- Optimization and consolidation—The focus is on specific regional/multi-country operational models, optimization across different organizations, and implementation of new partnerships with vendors and suppliers—like co-sourcing, outsourcing, off-shoring, and so on.
- Evolution of a consolidated NOC—A service-oriented NOC organization enables service operations and leverages technical capabilities from the infrastructure and network-related management to the service view and management. This moves the focus from a resource-oriented reactive model to a service-oriented proactive model, capable of tailoring operations capital expenditures (CAPEX) and OPEX to the most revenue-generating services to support.
- Service-oriented and business-aware service management—This extends the management capability for service throughout the full service lifecycle, including service strategy, design, deployment (fulfillment), and operations.

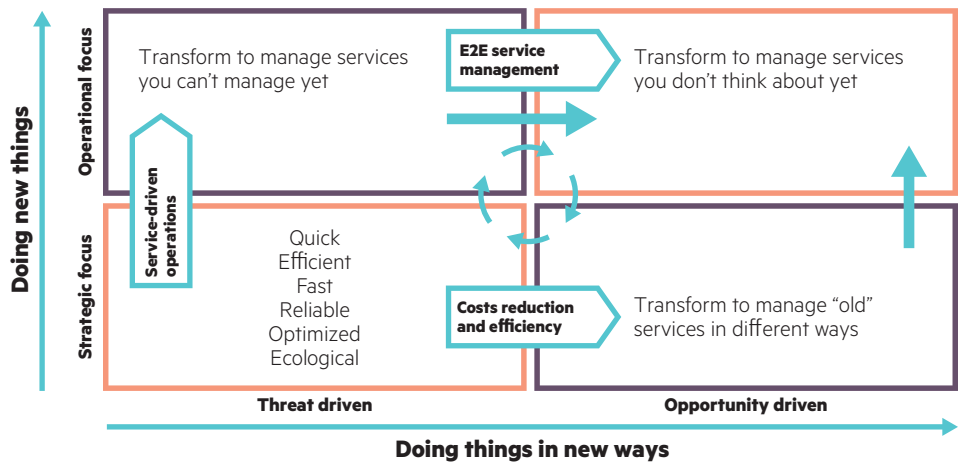


Figure 2: Drivers of service operations

Operations challenge: OPEX reduction

Traditional telecom organizational structures set up barriers to success by building a structure that incents team members to concentrate on functional skill sets, promoting inward-facing results.

The common challenge for best practice assurance operations is consolidating fragmented and siloed support systems. This is very often the case, where several systems, in essence, carry out the same function. OPEX reduction-focused transformation is a best-practice-oriented view of consolidating efficient processes, architecture, and information and data sharing across all telecom domains. Such a transformation is likely to provide Telco operators with a solid foundation

that is based on consistent and automated fault and problem management, illustrated by the overall process relation and logical setup of infrastructure, performance, and experience alarms. Within this scope, consolidation of alarm collection provides an efficient way to set up work orders and notification, enabling full visibility of areas requiring ongoing improvement.

This exercise serves an important purpose for aligning strategy—an executive stakeholder requirement—to processes, organizational units, and supporting technology. In this context, the processes translate business requirements into functional requirements.

It is important to focus on the consequence of introducing standards-based support systems. Operational support users are used to developing technical-oriented requirements and in return, operate with best-fit technical systems. This causes constraints and risk when changes are made and increases costs as documentation is often missing.

One of the most important business requirements is maintaining agility and having operational readiness to reduce time to market when launching new services and applications. If this cannot be accomplished, operators will increasingly face issues to respond to competitor initiatives.

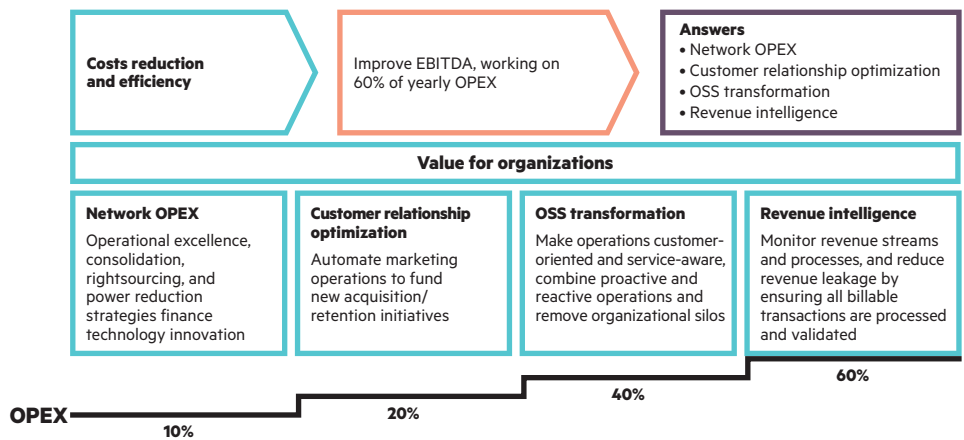


Figure 3: Costs reduction and efficiency

Operation challenge: SOC consolidation

SOC consolidation is driven by the need to move infrastructure management. Increasingly a commodity, it's embedded into the organization's core as a basic asset of capabilities that are standardized and well packaged as related to a flat revenue-generating stream. Innovation and most revenue-generating technologies are the operational focus for service-driven operations.

This balances operational activities with effort and resources spent in support of real business value, and is accomplished as soon as the service catalog and model are built and resources can be mapped to the upper service layer.

The future mode of operation for your transformation program should be based on eTOM and ITIL® v3 best practices, a foundation on which you can improve current operational service support for your Telco and IT services.

The main goals of your future state should include:

- Having an operational service support organization with clear roles and responsibilities for each department.
- Maintaining a clear understanding of service-management support levels through all processes—end to end.
- Transforming from technology centric to service centric.

- Introducing a holistic and consistent view across processes with clear responsibility, process owners, and process managers.
- Making departments work more efficiently in their area of expertise.
- Tracking activity in process execution.
- Having one inventory system and one configuration management process with one configuration management database (CMDB).
- Having one trouble ticketing system to underpin all these processes.

This can all be done by adopting a best practice operational framework with service management processes.

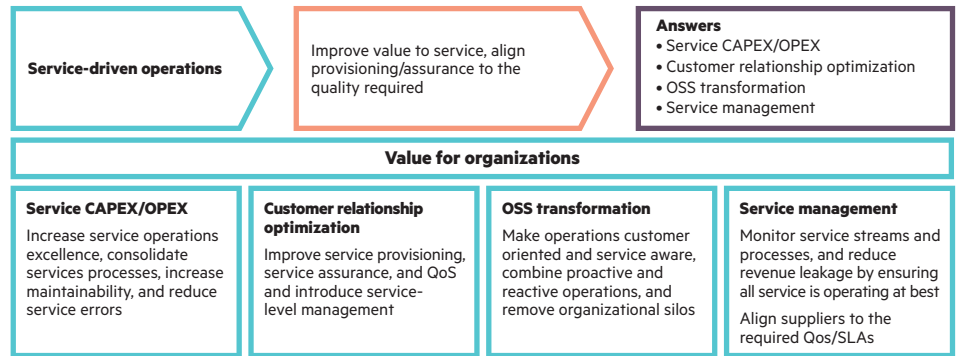


Figure 4: Service-driven operations

Operations challenge: Service operation excellence

Service operation transformation builds service excellence, which provides the capabilities to deliver existing and new Telco services for the future marketplace. In the service-excellence model, service is managed in a holistic way, end to end throughout the full service lifecycle. It defines products and services for the new marketplace and is responsible for service fulfillment processes, which will decompose the ordering of products. It also activates all the resources required to create a service subscription. In order to support the service lifecycle, the service is modeled and managed by service inventory, which stores the relationship of the customer, service, and resources to fulfill it.

In a service excellence model, service assurance functions are coordinated so the business unit can verify the customer is receiving a good experience. The customer experience function ensures operators have full visibility of all the experiences the services delivered. This function also provides the right information to the marketing unit to plan for future strategies, and so customer care centers can help with customer interactions.

For service operations to deliver the right experience to customers, it must verify all resources are the right quality; the service quality management function provides this capacity in the service factory. By extracting information in the resource management level, service quality management can map the service quality delivered as the service quality management function integrates with the fault and performance functions at the resource level.

The core function of service assurance of service operations is the service-level management function. Service management has commercial arrangement in the marketplace. To deliver these service levels, service operations require the service-level management function. The service-level function applies to services that require coordinating resources across partners and business units to achieve the right level of service quality. This function will be important in the cloud, enterprise, and Information and communications technology (ICT) marketplace.

Service operations can only perform its described role if it has a proper interface with the resource management layer. As Telco and IT technology converge, the resources used by each service will use standard technology components like network routers, VPN links, wireless access points, IT servers, storage, and memory. Procurement can work with resource management to acquire the technology—with the best quality and price.

The resource management layer is responsible for managing these resources, and the operation support systems required by the resource factory include fault, performance, and inventory management functions. These OSS functions have matured over time, and are converging across IT and Telco networks.

Telcos are seeking more advanced resource OSS functions to enable better quality at the right operating cost structure. Some of these required investments include probes to monitor the links. This high-volume data must be stored efficiently in customer experience assurance servers located in the resource management layer. For fault management and performance management functions, Telcos need these tools to provide management across IT and the organization.

In the future model of resource management, some of the resources required for the fulfillment of services are provided by a third party instead of operating the technology internally. This is particularly important for cloud services where the operator can work with the third party for Infrastructure as a Service. Another aspect of partnership could be broadband fiber, where some governments have taken responsibility to provide fiber access to all homes. Other examples include sharing a network between geographies. This means resource management must be capable of importing resources and effectively collaborating with partners to deliver the right level of service and meet the service-quality standards required by service factories.

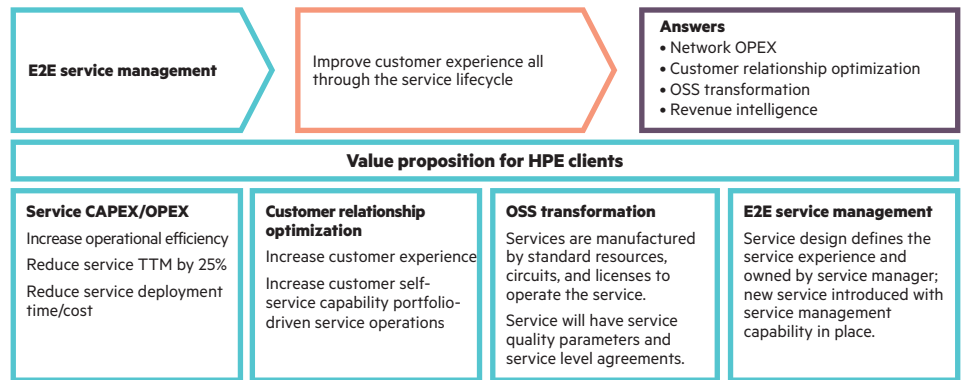


Figure 5: End-to-end service management

Customer satisfaction key

Service change and related challenges for service providers can be assessed and successfully transitioned to adopt or adapt to a successful and flexible business model to achieve your business goals and increase customer satisfaction.

And a thorough analysis and carefully orchestrated process, technical and organizational transformation, and a new horizontally customer-focused service operations structure will provide the tools and processes that enable a cross-functional focus. And success will be measured based on customer satisfaction, instead of functional performance.

Next steps to take

Depending on the maturity level of your operational model and where transformation drivers are more challenged to meet business expectations, you need the right mix of services.

- Do a service assessment that includes organizational, process, technical, and people-related changes.
- Analyze, design, and right size your process capacity and execution.
- Analyze, design, and right size your technology architecture to properly sustain your processes and organization.

Business transformation enabled

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- A proven track record of defining and executing business transformation to large CSPs worldwide
- A portfolio of consulting services that can be combined and customized to meet key business objectives
- A proven methodology to guide and orchestrate a completely customized transformation strategy on any scale
- A model-based approach that attacks problems in a systematic way, synchronizing interdependencies among operations, organization, and technology

About the author

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Andrea Stefanelli has more than 20 years of experience in OSS software product development, architectural design, and project management—gained primarily in the telecom industry. He has worked as a business consultant, developer, project manager, and programmer, giving him a breadth of experience that enables him to see business issues from a wide perspective. Stefanelli is an active participant of TM Forum Community as an author and speaker of studies on eTOM and ITIL convergence.

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