Basic Operational Challenges

All companies have at least four goals:

- Keep their current customer base
- Increase market share
- Develop high margin products and services
- Decrease operational expenses

Achieving these goals is based on skilled operation and organizational discipline. That said, being in the right place at the right time also has a positive effect. Success, obviously, can make the difference between a profitable company and a shuttered one. The operational challenges (see Figure 2-1) in trying to achieve these goals may be greater in some industries than others and service providers are no exception. Their operational challenges fall into seven basic categories:

- Partnering and alliances
- Organization/operations
- Sales and marketing
- Service delivery and provisioning
- Customer care
- Billing
- Infrastructure

Typically these operations fall into “customer-facing” and “back-office” functions as seen in Figure 2-1. This chapter gives a high level overview of each challenge as a basis for the case studies in Part 2. Part 3 discusses each challenge in detail with checklists that service providers can use for guidance.
All organizations have key measurable objectives that they use to define business success. Here are some examples:

- Increasing market share by \( x \) percent
- Closing \( x \) number of sales by (date)
- Increasing revenue/customer by \( x \) percent
- Utilizing \( x \) percent of IDC (internet data center) floor space by (date)
- Profit targets of \( x \) percent by (date)
- Measuring customer satisfaction
- Churn (customer turn-over) rate during the quarter not to exceed \( x \) percent
To reach these goals, the provider must be committed to fundamental change. An Internet-focused company must have the commitment of top management that actively pursues, controls, and maintains the corporate strategy and vision. People must be given the proper tools to be successful and rewarded when goals are met. Likewise, personnel should be remunerated to discourage them from building empires that take focus away from the common strategy. The service provider must be constantly challenged to be a market maker, defining the best of breed in the market. Once the core competency is defined, the provider needs to perform due diligence and choose the best partners and alliances to fill the gaps identified in the service offering and delivery. This is not a mature industry and there are no rules, so service providers need to be flexible and nimble in order to survive. If the provider is a corporate spin-off, the parent company must allow this flexibility. Most importantly, the provider must be customer centric and customer focused.

2.1 Partnering and Alliances

Strategic partnering and alliances are essential for service providers to remain competitive in today’s cutthroat environment. Partnering takes many forms and may be instigated to share things like information, resources, funding, equity, and so forth. No matter the form of the partnership, it should support the business objectives of the service provider and fill an identified gap in the business strategy. Normally, when creating a solution, a service provider tries to find a partner when filling identified gaps is too expensive, and/or too slow to do in-house. Partner strategy can be simplified into six steps shown in Figure 2-2.

Phase One entails identifying gaps in the service provider’s organization and strategy that can be filled by partners. Then the service provider needs to prepare a partner profile and investigate potential candidates that fill its needs. After potential candidates are identified, the service provider needs to review the choices for business risk, looking to see if the candidate is financially viable, has management expertise, and so forth. Then the negotiation process begins.

Negotiation strategy and process is not the focus of this book, but here are some questions to ask:

- What are the main outcomes desired from the negotiation?
- What is the service provider’s position? The other company’s position?
- What are the service provider’s walk-away points for each issue?
- Does the service provider understand the other company’s organization?
After contract signing the partnership goes into management mode for ongoing care and feeding. The last phase represents partnership exit, if/when partners determine the association is no longer viable.

Many of the same factors that break up marriages destroy partnerships: poor foresight, poor planning, and lack of quality management after the partnership is announced. Partners must share fundamental values and business philosophies and must agree to contribute required resources upfront to make the partnership work. The most effective partnerships are between people who bring different skill sets to the table and respect each other’s expertise.

In most cultures, written agreements are important and force partners to think through partnership details. Partner conflict is prevalent and service providers should do their best to focus a partner as much as possible, mapping them against the overall product or strategy. Partner focus must be communicated as a function of overall partner management.

Partnerships may be used for sales and marketing, or more core development and intellectual capital creation. Sales and marketing partnerships may include things like joint business development/sales calls, funnel sharing, joint seminars and conferences, new sales initiatives, marketing collateral, demo centers, and so forth. Core development partnerships where a joint product is involved usually mean a more fundamental investment in time and materials on both sides. Partnering with vendors can offer significant sales opportunities for the vendors and new markets for the service providers. Some vendors offer sell-to/sell-with programs to service providers, with offerings along the lines of locating venture capital, services development, sales/marketing, and so forth.

Partnering and alliances are important in any business, but especially so for service providers. They may permeate all aspects of the service provider business and cannot be taken for granted. Partnering takes many forms and is a way to quickly gain entrance to markets, increase product/service functionality, and decrease operational expenses. The corporate relationships may be strategically agreed at high levels between companies, but must promote good working relationships at the field level in order for the partnership to be executed successfully. Alliances, like marriages, have lifecycles and the service provider must understand its goals in each of the phases, keeping focused as the relationship progresses. Sometimes, formal relationships are not built until initial success is achieved. Sometimes formal relationships are needed right away, especially when investments and joint development is involved. Exit strategies must be considered early on in the relationship so that parting is more equitable—one never knows when a future relationship will again be desirable.

2.2 Organization

The key to the xSP model is the consolidation of service delivery capabilities, allowing the service provider to leverage economies of scale and reusable service components. For the model to work, the services must be delivered from the xSP or xSP-partner-managed facilities that support many clients, using common platform configurations. Keeping common platform configurations lowers the cost of operations and makes service delivery, management, and support more efficient with
fewer errors. There may be many component service providers needed to offer an entire end-to-end service, but one of them must take the lead, accepting responsibility for service availability and quality. The service provider taking that responsibility will own the customer relationship and maintain brand equity by establishing direct contact with that end-customer.

2.2.1 Organizational Structures

This book discusses two high-level logical organizational structures that depict how service providers can be organized for both ramp-up and ongoing operations. These organizations loosely map to service delivery operations, as seen in the traditional telecommunications models: the Telecommunications Management Network (TMN) model, the Telecommunications Operations Map (TOM), and the Provisioning, Assurance, and Usage (PAU) model.

The TMN model (see Figure 2-3) shows how the business is logically managed, TOM (see Figure 2-4) maps processes into different operational functions, and PAU (see Figure 2-5) maps these processes into the provisioning, assurance, and usage functions of the business. The most important thing to remember when organizing a service provider is that there must be a customer-centric focus to organization and processes.

2.2.2 Staffing

Organizational staffing depends on guidelines set up around cost containment and productivity balanced against the provider’s service’s roadmap. Finding the right employees is a bit of an art form. Try to make an ideal employee profile that incorporates the desired skills and personality traits. What books would he/she read, what hobbies would the successful candidate have, what trade shows would they frequent? Does a recruitment booth make more sense at a wine festival or a technical conference? Company reputation has a lot to do with recruiting and retaining the best employees. Do research to understand what others inside and outside the service provider think it’s like to work there. If consultants are used for recruitment, the provider should not abdicate candi-
2.2.3 Decision Making

In general, when entering the market, service providers should focus on key processes and create some decision boundaries, versus rules, to empower key managers without limiting their authority and creativity. These boundaries should include guidelines on corporate mission/vision/goals, business priorities, financial profit/loss, timing, and exit. Key to this philosophy is communication. Communication shouldn’t be exclusively top/down, but should incorporate bilateral methods. All levels of the organization need to know what is most important to the owners/stockholders, understand market dynamics, corporate strategy, key company issues, and so forth. There must be venues for every employee to add useful input or criticism without feeling his/her job is in jeopardy.

Figure 2-4  The Telecommunications Operations Map.
© TM Forum’s Telecom Operations Map.
2.2.4 Growth Strategies

Primary growth strategies fall into the following three general categories:

- Organic
  - Recruiting and retention
  - Differentiation
- Partners and alliances
- Mergers and acquisitions

Organic growth seems to be preferred in more stable market environments where providers have time and local labor resources. Partnering and alliances will occur in normal business as the provider identifies gaps in service functionalities and channels to market. Mergers and acquisitions are more common for those Internet players and market situations where a key capability is needed fast or in the case of rapid geographic expansion.

2.2.5 Investments

As part of the general service provider organization, decisions need to be made about how much revenue will be reinvested in research and development (R&D), marketing, education/training, recruitment/retention, infrastructure technology, sales, and so forth. A lot depends on the core competency of the provider, their position in the market, and business goals. Analysts seem to show a mean average of 5.5 percent of revenue reinvested for R&D purposes, 5 percent for educational purposes, and 6.5 percent for marketing purposes.
2.2.6 Project Value Methodology

Service providers should be preoccupied with deciding which projects or services to implement sooner rather than later, so it makes sense to say a few words about project valuation trends. Besides the typical internal rate of return (IRR), economic value added (EVA), and net present value (NPV), and so forth calculations, providers are emphasizing more and more the value of a loyal customer base and the effect a new system or service will have on their most profitable customer segments. This should be the focus of the provider’s project office.

The first step is to determine the value of the customer base affected by each project. Then the provider needs to look and consider which projects under consideration will provide the greatest return in protecting or enhancing customer value in the shortest amount of time. To determine the most profitable customer segments, the provider needs to measure the revenue generated per customer, the probability of retaining each customer, the cost of retention, and the cost of acquiring customers. Taken together, this information will show the effect of the customer segment on the company’s bottom line. The project office should then look at its project list and determine which projects will have the most positive direct effect on the identified customer segment(s). The relative costs of these projects can then be analyzed, together with other information, against the financial considerations of the customer segments to make an informed go/no go decision. The result is that the provider will first implement those initiatives that have the greatest effect to the company’s bottom line.

2.2.7 Organization

There is nosecret formula to set up an organizational structure for a service provider; rather it is dependent upon process design and people effectiveness, as well as profit targets and desired overall customer support levels. Chapter 10, “Organization,” will give suggestions for organizational roles and titles, personnel organizational models, and estimates for resource numbers, as well as a list of processes needed to operate effectively. When the service provider decides on its services roadmap, it can also decide on its core competence—what it wants to be famous for and when it will be, or needs to be, profitable. After this, the service provider can better decide how it will staff, partner, and outsource. When outsourcing a portion of its operations, a service provider must perform rigorous due diligence and manage these associations carefully for quality performance. Staffing plans normally are developed in conjunction with the detailed sales, marketing, and operational plans.

2.3 Entering the Market

It is helpful to think of everything the service provider does for a client in terms of a solution. Before entering the market, it is important to correctly understand customer needs and have a clear roadmap to profitability. Labeling the company, its service offering, or affiliations, is necessary for brand awareness in the market. Service providers should be aware that market identity with the label may have adverse affects. An example of this is the dot.com label after the market
crashed and so many went bankrupt. Providers using this label could feel direct results on their industry visibility, reputation, earnings, and shareholder value.

2.3.1 Determining Customer Needs

It’s difficult for a service provider to define a solution for a customer segment that is “needs-oblivious.” There are four essential elements to determining if potential customer segments understand a perceived need:

- They can articulate their issues.
- They can offer evidence, financial or otherwise, that a problem exists.
- They can articulate the impact, financial or otherwise, a solution would have if the problem is fixed.
- They can list the functions a potential solution needs to address.

After customer needs are assessed, the service provider needs to think strategically about what services to offer and what functionality to bundle. These bundles will change as a function of the services lifecycle, product mix, competition, and changing target customer markets. Some services might be bundled as a way to enter a market and be priced to “buy” the market as a loss leader for a certain amount of time.

Sales and marketing is a critical area for any service provider, especially in such a highly competitive market. Service providers use many sales forces that fall under the broad headings of direct and indirect. Traditionally, sales forces were organized by industry matrix solution set. As Figure 2-6 illustrates, providers have been evolving through several stages of sales organization, from:

- Product lead
- Geography based
- Service line

...toward solution based and vertical expertise organizations.

This progression shows an evolution toward understanding customer needs and a progression toward consultative selling. Selling service provider services to potential customers is more complex than traditional product sales because it normally directly affects many divisions across the organization. This can mean a larger deal size and more decision makers involved in each sale. It also means that sales calls will be at the executive level in the prospective company. By moving from left to right in the continuum in Figure 2-6, sales people better understand, and are better able to articulate, how their Internet services will affect the core customer business. That

![Figure 2-6](Image)
said, many providers are still trying to understand how to perfect the consultative selling model, many leaning toward a team selling approach pairing a sales person with a consultant and a technical lead. Typically, the leads are then reviewed for viability by a management team.

Direct sales teams are the most expensive and normally focus on key service provider customers. Indirect teams are less easy to control, but less expensive. These sales teams are homed in on the customer groups as defined by the focus of the channel. This helps mitigate the risk of having most of the provider revenue being based on only certain customers.

### 2.3.2 Pricing

Pricing models are limited only to the imagination of the service provider and acceptance by the market. Contracts include such models as:

- One time set up fee and ongoing set periodic fees thereafter
- Per transaction, fixed rate
- Per transaction, rate based on volume of transaction
- Risk/reward monthly rate based on business success. Normally ceilings and floors are associated with this.
- Cross selling, pricing discounts based on selling to provider/customer client bases

Service providers want to offer pricing benefits to those customers willing to sign multiyear contracts. Some will offer special rates to customers that have a service or product that can be cross sold to other provider customers. This is one way of bundling more value added services into the provider’s services mix.

### 2.3.3 Marketing Communication

Marketing communication should be simple and understandable to the target audience—it should untangle the Web. The service provider should build brand recognition through communications channels and defend the brand as much as possible. Partners and customers may pay dearly to be associated with a trusted brand. Build a loyal following that will communicate, by word of mouth, the advantages of the brand to new customers.

Providers want to be market makers, defining the market. There are disadvantages to this strategy, for example having to educate the marketplace about advantages of the new service and working through legal questions arising out of new models. Advantages of being first to market normally far outweigh the disadvantages and include things like price definition, brand recognition, market share, and so forth.

The service provider’s go-to-market strategy includes information about:

- Customer need, market drivers, and customer segmentation
- Customer needs awareness levels
- The service offering description
- Service pricing, placement, and promotion
Strategy is executed via a series of plans, including plans for:

- Sales
- Marketing/Marketing Communications
- Resourcing
- Partnering
- Operations, and so forth

Service execution components include:

- An owner
- A small number (maximum of three) measurable objectives
- Marketing, sales, staffing, partnering, and so forth.
- Plans to achieve those objectives
- Testing the plan
- Gathering the resources to execute the plan
- Executing the plan(s)
- Formulating a plan when the market and competition reacts to the services
- Ongoing execution review
- Developing an exit strategy

2.4 Service Delivery and Provisioning

Efficient service delivery is one of the differentiators in the service provider business and providers need to understand the service costs, timing, and delivery process. Service delivery is the service provider infrastructure and processes needed to deliver a service to either an individual or enterprise. It includes all aspects of the customer lifecycle including:

- Purchase: from order entry through testing
- Activation
- Maintenance
- Up-sell
- Exit

Service delivery (see Figure 2-7) and provisioning need to be in synch, efficiently linking many parts of the organization. Typically, the processes to deliver and provision new services, or changes to existing service, are set up so it is impossible to control the entire process. There are usually point-to-point, tightly linked processes involving resources and technology between departments that are difficult to optimize.

Typically, these processes are a mixture of systems and human elements with no one coordination point. A change in one aspect will have a domino effect on the others. For example, automating order entry means the links to other aspects of the provisioning process need updating to reflect the automation.
Service delivery for a new service consists of four high-level provisioning areas—sales/negotiation, order capture/handling, service configuration, and provisioning/activation. The more preconfiguration, the more steps can be bypassed.

The following are generic processes for service delivery of new services and link into Figure 2-7.

- **Step 1**—selling. The customer inquires, negotiates, and decides to buy a service. If the service can be self-provisioned the customer can go directly to Step 4.
- **Step 2**—order request. An order request is created and the sales staff checks that it is feasible to supply this service to the customer. This normally includes some sort of product catalog and network inventory.
- **Step 3**—service request. If the service is feasible, a request for the service can be generated.
- **Step 4**—provisioning request. Configuration parameters are set up, work force assigned to install the CPE, network elements are configured, access checks are performed.
- **Step 5**—activating the service.
- **Step 6**—test request. The service is tested to see if it is working and can be released to the customer.
- **Step 7**—service delivery complete. Control passes to the service assurance and billing processes.
One of the biggest single operational investments made, in dollars and manpower, is a flexible automated provisioning system. Provisioning is the step in the service delivery process when configuration parameters are set up, the work force installs the customer premise equipment, network elements are configured, access is checked, and so forth.

2.5 Customer Care

When customer churn is high something is inherently wrong with service and no provider can afford to lose profitable customers. Customer relations are the most important element of a successful business and a differentiator in the market. To be successful, providers should create a single view of the customer that is available throughout as a way to streamline sales and customer support functions. Only by having a single view of sales, delivery, billing, and customer care can service providers run their business efficiently. The provider should be organized in a way that customers can handle all their business through whichever entry channel they choose.

Call center business applications are inherently operational (local) and can be independently justified. Information they use, acquire, and share needs to be analyzed and processed (global, systemic) for use in developing new processes and services.

**Operational**  No solution stands alone; each exists in an operational context. Successful customer care solutions are systemic, rather than point-to-point. These systems must integrate:

- Computer/telephone user interfaces (CTI)
- Call flow
- Work flow
- Call handling scripts
- Sales and marketing strategies and tactics
- Business objectives

**Analytic**  The operational information must be stored, normally in a data warehouse, and analyzed, or processed, for those needing a combined view of the customer's situational environment. To do this, system designers need to know what departments or individuals will benefit from, or be affected by, the information flow. More specifically, they need to understand how the following interact:

- Applications
- Databases
- Processes
- People
- Functions

Information must be processed in a way that will work best for the provider through specific analysis and profiling techniques.
Impact  All of this means understanding the impact of information on the organization. How will access to more in-depth, consolidated customer information affect different areas of the organization? The correct answer will have a dramatic effect on the company’s bottom line. More complete customer information available to more areas of the company should mean a closer customer relationship, better products, lower customer churn, and higher revenues.

When discussing customer service, service providers normally think in terms of:

- Controlling costs
- Improved customer service representative (CSR) efficiency
- Better customer service and interaction
- Improved image
- Integration

Each customer contact is an opportunity to reduce risk of churn and increase revenue. Each touch point must be able to capture the customer contact event with enough information to improve the next contact and to anticipate future needs.

Customer care is also an opportunity to extend interaction beyond normal business hours meaning more opportunities for revenue generation and customer satisfaction. Self-care options with electronic interfaces give customers control over their environments and lower frustration factors. These options also lead to lower costs because customers can help themselves and, hopefully, solve their own problems. The provider can choose to support and facilitate chat rooms using these interfaces as a way to build brand loyalty. It is also an excellent way for the provider to get closer to the customer and get first-hand customer feedback.

Any customer care system must have measurable objectives and monitoring systems. These are the keys to managing market perception of the service provider. Customer relationship management systems are more than just call centers. They are the glue that link information between different operational areas of the service provider to give one view of the customer. Operational management systems link day-to-day information while analytical management systems show trends and help management understand overall business performance. Customer relationship management (CRM) systems will be a critical enabler for high value services and will eventually expand to touch all points of the organization.

2.6 Billing

Billing for IP services is significantly different from billing for circuit-switched telephony. Mediation is harder; bytes, bandwidth, and QoS provide a more appropriate basis for pricing than minutes. Billing systems need to take a high volume of usage information from many sources and rate them, real-time, while applying universal discounting and settling charges, some of which are roaming, with diverse business partners. Customers expect self-provisioning and care with instantaneous results to their service. To keep up with these trends, billing systems need to be scalable, flexible, and robust with abilities to easily update tariff plans and rating logic. There also needs to be an ability to set up APIs and protocols that will work with
“Webified” and “non-Webified” applications since industry standards are not defined in this highly fragmented area. Service providers are looking to billing as a source of new revenue by enabling charging for advertising, cross sell/up-sell, and as a new wholesale service that can be offered to service providers who decide to outsource these functions.

### 2.7 Infrastructure and Availability

Over the years, the landline telephone and the cellular network have developed thousands of interconnection points to exchange traffic among network operators. Users, confident of connectivity and quality standards, have come to expect consistent pricing and quality in both environments. Similarly, cellular and landline network operators are accustomed to the costs and revenues associated with internetworking through an established traffic tracking and revenues settlements system. Since the Internet is an entirely new kind of global network, it has presented unique challenges from an infrastructure and availability standpoint.

Client/server software is not optimized for xSP delivery over the network. Challenges when offering non-Web-enabled applications include software delivery, maintenance, revision control, and backward compatibility. Even if the software is already Web-enabled there could be operational problems that need to be overcome before it is service ready. Testing and benchmarking in a nonoperational environment is key before going live.

Modular architecture can ease deployments, upgrades, and system enhancements. Capacity planning and forecasting for new services is very difficult and providers need to have alternative forms of capacity until customer usage statistics are available.

Service provider infrastructure needs to be scalable, flexible, dependable, supportable, secure, and manageable. These characteristics are needed throughout the delivery chain from service origination through to the final customer. Usually they are measured by SLAs. Service levels are often governed by the links between members of the delivery chain and are dependent on the chain’s weakest point. Service providers just entering the market will probably offer the most basic SLA possible and will include only those elements over which the provider has direct control. More complex SLAs, while highly desirable from a customer point of view, can only be offered by those providers in tune with, and experienced in, operating a complex delivery infrastructure. Whatever architecture is used must support the service provider’s business.

### 2.8 Summary

In reviewing the operational challenges it is important that the service provider understands its current state: What is good today, what is unacceptable, and why. Then the provider must understand the future state: What does a successful future look like, in a quantifiable way, and why. The gaps identified between today and the successful future are the basis for a sound execution plan to move away from pain, toward gain.

Part 2 shows how service providers around the world identify, face, and work through the operational challenges described in this chapter.