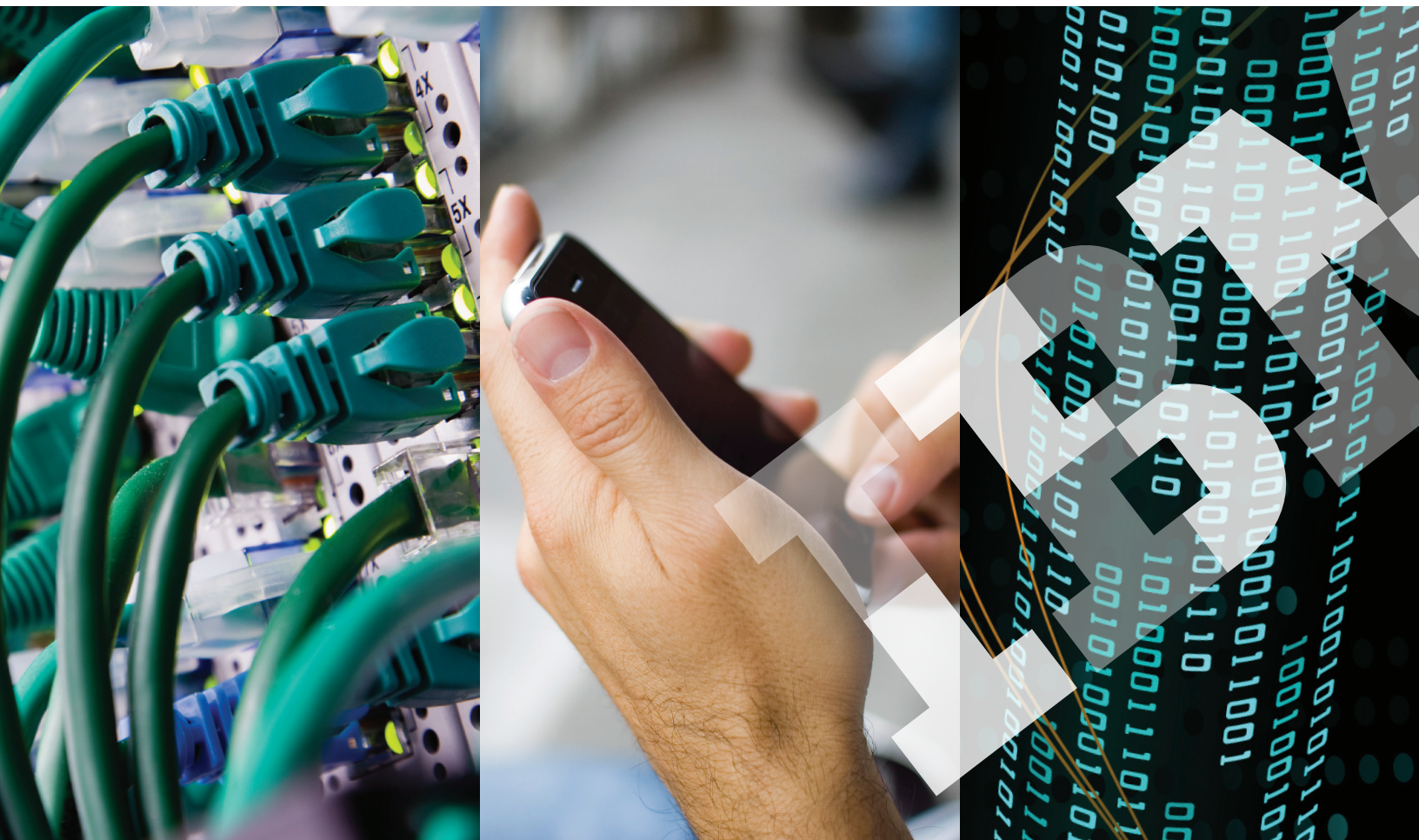


The value of smarter communications

Harness the power of data and analytics to maximize the value of each customer



Create opportunity from change

For wireline and wireless communication service providers (CSPs) the traditional voice-based business model continues to decline. As shown in Figure 1, network traffic is exploding as consumers place greater importance on data access and anytime, anywhere connectivity. Between 2006 and 2011, wireless data revenue grew dramatically in the U.S.¹ yet, voice revenue declined. As an example, between 2002 and 2010, one major full-service U.S. provider saw its wireless revenue more than triple, with a five-fold increase in operating profit. Over the same period, however, its voice-dominated wireline communications revenue declined by two percent.²

These shifts reflect how people choose to communicate. Five years ago, U.S. wireline businesses experienced a 10 percent loss in subscribers as households abandoned their fixed line service. Since then, this trend has increased and, by mid-2011, that number had nearly tripled.³ There's also an increasing hunger for data. Users of the iPhone 4S, for instance, consume up to three times as much data as iPhone 3G users.⁴ Today, people may tweet, text or use video chat instead of calling. They may choose to watch streaming video rather than TV. Competition, both to pricing and to the business model, is coming from over-the-top providers focused on the data pipeline.

“In addition to Skype, who would have thought that texting would become even more valuable to the younger generation than phone calls?”

— Former sales director, major U.S. CSP ⁵

“We need to take measures that improve the customer’s points of contact and customer loyalty, and enlarge our fan base.”

— Telecommunications CMO, Japan ⁶

Business models must change as CSPs look to seize the opportunity these new trends offer. The evidence that they are doing so is everywhere. Phone companies compete in broadband and TV, while cable companies provide VoIP and data. Yet, growth is elusive. Revenue at the top 20 mature-market CSPs shrank from 2008 to 2010⁷ and some may see negative cash flow as soon as 2013.⁸

CSP revenue trends

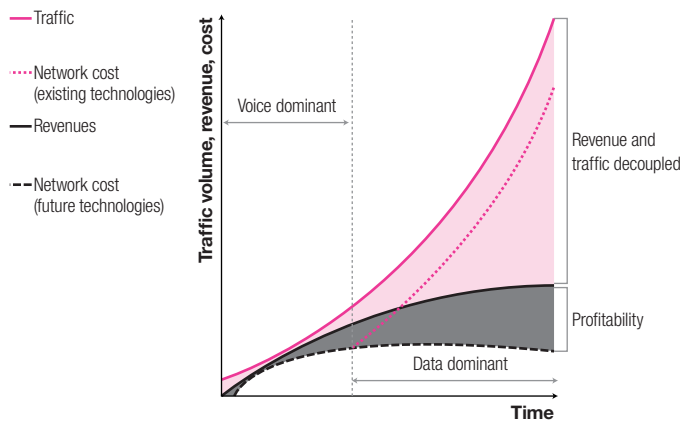


Figure 1: Revenue and costs are dissociated in a data-dominant world.

Source: Nokia-Siemens, IBM Institute for Business Value analysis.

The way forward lies in a valuable asset CSPs already have: information. By investing to manage that information and understand it through analytics, CSPs can acquire more customers, retain those they have, capture more income and boost revenue per user. According to our research, these investments could net a hypothetical mature-market US\$25 billion full-service CSP over US\$600 million in annual pre-tax economic benefit, with 12.9 percent attributed to fixed voice benefits, 42.6 percent from fixed broadband and 44.5 percent from wireless.⁹

How to build a smarter CSP

If a CSP can take advantage of what it knows about its customers and their actions, it can make the most of every relationship. That is what we mean by a smarter CSP. By applying analytics, data about network usage and customer preference can produce insight and drive service innovation. The result: greater satisfaction and a better customer experience. CEOs agree that this is essential to growth.¹⁰

The roadmap in Figure 2, on page 4, shows what CSPs need to do to generate that insight and act on it. The vision is to make much better use of data and processes. This can help the CSP give customers what they want, when and where they want it. That is the key to greater satisfaction and more revenue. Ultimately, this could lead to higher lifetime value of customers, as they remain loyal and purchase more value-added services.

“We need a visceral understanding of customers in addition to analytics, and we plan to integrate more of the customer experience into our measurement systems.”

–Telecommunications CEO, United States¹¹

The roadmap depicts a set of related competencies that build on one another, spanning processes, technology and data. Taken together, these can lead to a more competitive CSP.

- Data warehousing and management—Create a single view of products, partners and customers that leverages network data
- Integrated business intelligence—Establish relevant, timely and useful customer and network intelligence that enables new and/or optimized business processes
- Enterprise analytics—Drive outcomes through predictive modeling and deep awareness of customers, operations and network information
- Intelligent analytics and autonomies—Automate process execution and decision making, and expose analytics to add value to customers and service partners

Many discrete business capabilities go into these competencies. While CSPs already invest along these lines, few have fully addressed all of the steps on the roadmap in depth. This may cause gaps in their ability to understand the information completely, making timely decision-making a challenge. As the CSP improves its maturity across all competencies, it can become more proactive, agile and effective.

As a CSP proceeds along the path to smarter communications and builds up the necessary competencies, it can improve its abilities in several key areas. The first stage helps build the foundation: a timely, accurate, consistent view of customer, partner, supplier and network data. Building on this with near-real time, relevant intelligence can help optimize business processes. As a CSP proceeds along the path to smarter communications and builds up the necessary competencies, it can improve its abilities in several key areas. The first stage helps build the foundation: a timely, accurate, consistent view of customer, partner, supplier and network data. Building on this with near-real time, relevant intelligence can help optimize business processes.

Smarter communications offers a roadmap for CSPs to maximize the value of each customer by using Advanced Analytics and Autonomics

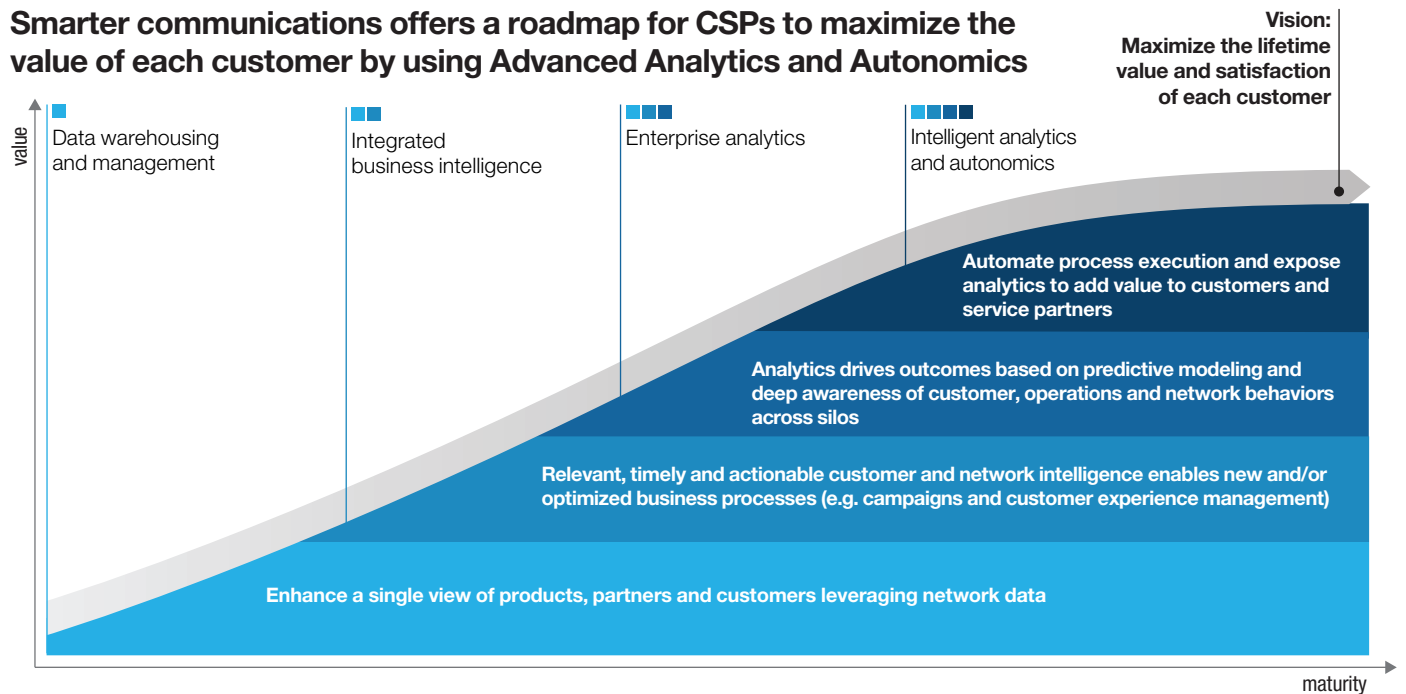


Figure 2: Taken together, this range of competencies can help CSPs make better use of information about customers and service usage.

Source: "Smarter Communications Value Quantification." IBM Center for Applied Insights and the IBM Telecommunications Industry, 2011.

With the ability to manage and analyze data, CSPs can take a forward-looking view of the business. The focus can shift to maximizing lifetime customer value by increasing satisfaction and creating a better customer experience. Combining analytics with autonomics lets the business execute campaigns based on predictive behavior modeling. Personalized offers delivered at just the right time help the CSP provide just the right product, exactly when the customer is most likely to purchase it.

It should be recognized that, despite major differences between wireless, fixed broadband and fixed voice CSPs—like the pace of change in equipment and offerings¹²—there are important similarities. The challenges they face are the same. Acquisition, churn, ARPU, billing and operational savings are important regardless of how the CSP goes to market and no matter where in the world it operates. Our research shows that these critical value drivers can yield comparable benefits for both lines of business. A closer look at each driver uncovers how smarter communications, enabled through data and analytics, can help address these sources of value.

How we put a value on “smart.”

Throughout this paper, you will see charts that detail how smarter communications competencies can deliver financial benefits. This information is from our primary research, supported by secondary information, which we conducted with current and former senior CSP executives from organizations of all sizes and geographies. We reviewed the research findings with industry experts and telecommunications industry leaders.

To develop the potential value ranges presented in this paper, we modeled a mature-market, full-service CSP with 10.2M wireline (6.5M fixed voice, 3.7M fixed broadband) subscribers, 11M wireless subscribers and US\$25B in annual revenue to determine how the competencies may impact key value drivers including customer acquisition, churn reduction, average revenue per user (ARPU) increase, improved billing and operational factors.

Ask yourself...

- To what extent does my company create value through real-time campaigns, analytics and tailored offerings?
- Has my company established strong data and process governance?
- Can my business use analytics to anticipate customer behaviors and needs?

**Use insight to acquire new customers**

Expanding the customer base can be difficult and expensive, particularly in saturated markets. There, acquisition means luring new customers away from their existing provider. European CSPs spend up to 10 percent of total mobile revenue on customer acquisition. To put this in perspective, that is close to their annual capital expenditures (CAPEX). Providers are spending just as much to attract customers as they are on infrastructure.¹³

A CSP has to be able to offer a superior value proposition to attract new subscribers. That means knowing the customer well and using that knowledge to appeal directly to them. If the business can do a better job of segmenting its offers, it can target customers more effectively. This can help increase uptake.

A leading telecommunications company in Asia increased its promotions-based sales from 15 to 75 percent, thanks to a new real-time promotions engine. The company is now the preferred provider for resellers. It can adapt its strategy as the market changes. At the same time, creation of reusable services across lines of business has reduced the time-to-market for new offerings from 10 months to only 40 days.¹⁴

The success of this effort depends on a solid base of data, aligned and ready to support promotional campaigns. Applying business intelligence helps focus each campaign to the right audience, optimizing campaign execution and making it more efficient.

While most CSPs already invest in this area, the value increases as the business goes beyond these steps. Adding predictive analytics helps the company understand customer attitudes and behaviors. That gives it the insight needed to create campaigns that are more effective.

Moving to real-time, highly automated campaign execution helps make promotions more relevant. This can improve the customer experience and benefit the business at the same time. For example, automated account activation can make it easier for customers to sign up—and easier to cross-sell to them when they do.

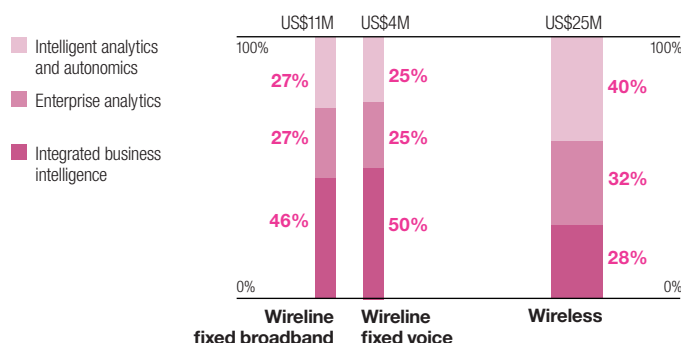
Customer acquisition**US\$40M (7% of overall benefit)**

Figure 3: Potential customer acquisition benefit after full development of all competencies.

Bharti Airtel, Ltd did this with an automated self-care system that handles more than 100 million transactions each month. Using the system, new mobile accounts can be activated 90 percent faster. The system also applies analytics to each transaction. That sets off a cross-selling process geared to appeal to the individual subscriber. As a result, they grew from six million subscribers to 140 million in six years. In one quarter alone, Bharti Airtel added more than 8.5 million new customers.¹⁵

“The most important challenge will be to improve value, from the customer perspective, of the quality of the relationship being offered.”

— Telecommunications CMO, France¹⁶

Ask yourself...

- How well can we apply advanced analysis of historical data for predictive decision-making?
- Does my business identify and measure the value of individual customers?
- Can our enterprise reporting solution provide correct facts? Is it user-friendly? How hard is it to produce high-value analytics?



Improve customer retention by being proactive

The high cost of reacquiring lost subscribers makes it vitally important to keep existing customers satisfied. It costs five times as much to acquire a new customer as it does to retain one.¹⁷ Most telecommunications CEOs put “getting closer to others” at the top of their agenda.¹⁸

Customers who are about to leave often send signals, for example by contacting customer service more frequently, or allowing usage to drop or even failing to pay a bill. The key to getting ahead of churn is to predict behavior.

XO Communications uses predictive analytics to identify and target customers. The CSP predicts behavior and proactively reaches out to customers with a high potential to churn. In the first year of deployment, XO reduced churn by 8 percent, with an additional 18 percent the following year.¹⁹

The CSP can identify customers at risk for churn if it takes advantage of data it already has. The first step is to understand who is leaving and why. Tracking service cancellations and applying analytics can help predict who is most likely to cancel. The company can then target its retention offers better.

Moving into real-time analytics and automation allows CSPs to time actions for greater effectiveness. Understanding context is important. Perhaps a customer nearing the end of a contract just had a bad experience that might prompt cancellation. Alternatively, a competitor might be targeting that same customer with an attractive offer. By providing analytics-driven insight to agents, the CSP can respond to these challenges with a retention, cross-sell or up-sell offer designed to appeal to the customer.

Churn reduction

US\$87M (14% of overall benefit)

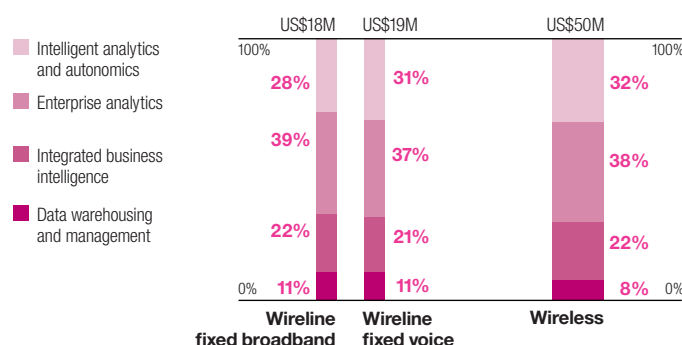


Figure 4: Potential churn reduction benefit after full development of all competencies.

“In the mobile business, annual churn rates of 20 – 30 percent are standard. In developing countries, churn can be as high as 60 percent per annum.”

– Investaura, February 2011²⁰

Commoditization of services means consumers see less difference between providers. This is one area where a full-service provider can have an advantage over a mobile-only CSP. The full-service provider can leverage its fixed-line assets by bundling across fixed and mobile, voice and data, and narrowband and broadband services.

Ask yourself...

- How robust and scalable is my data on customers, products, services, networks and partners?
- Does my enterprise have the ability to monetize analytics and innovate in new ways?
- Can we expose analytics functions for consumption by third parties?



Make each customer relationship more valuable

The current evolution of the industry is creating major opportunities as CSPs move into new lines of business. New devices, channels, partnerships and revenue models crop up constantly. New income from value-added services (VAS) could become the majority source of revenue per user.²¹

For wireline providers, there is great potential in VAS. For CSPs that offer wireline broadband, it provides as much as 88 percent of ARPU.²² Many CSPs are searching for opportunities to leverage their assets to bring value to adjacent vertical markets. Services such as e-health, mobile payments, smart home, digital retail and others provide many opportunities to add value to these industries.²³

Pakistani CSP Ufone can provide the services and bundles that its customers demand, based on analysis of subscriber information. The company recorded a large profit at a time when cellular phone sector revenue declined sharply in the country.²⁴

Knowing customers is critical. A CSP that understands in detail what its customers want can create appealing new offers. For example, KPN, a large European telecommunications firm, mines customer data to discover which products are most appealing and to help them predict who is most likely to respond to offers. It increased response rates to direct marketing campaigns by 400 to 1,000 percent.²⁵

Network and customer data is the source of this insight. Once a CSP understands how customers are using its services, analytics can help target the most profitable customers and identify their unmet needs. Wireline subscribers may have a triple-play service, but use the broadband portion more than the phone or TV. Those customers are prime targets for enhanced bandwidth. In contrast, a subscriber that watches a lot of TV might be receptive to an upgraded channel package, a second connection or a DVR.

ARPU increase

US\$391M (64% of overall benefit)

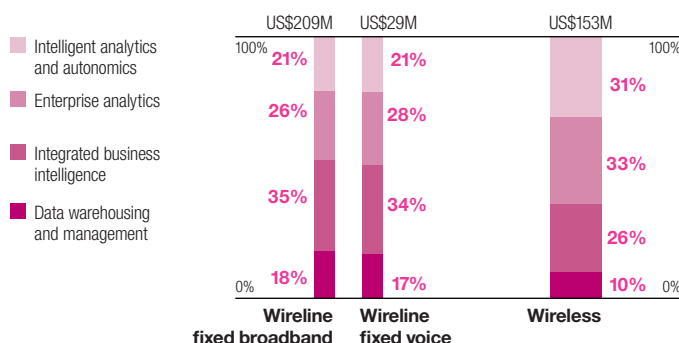


Figure 5: Potential ARPU benefit after full development of all competencies.

Customer behavior can also prompt automated actions that increase revenue. For example, a customer signs up for a streaming movie service, creating a sudden spike in data usage. That can trigger an offer for a new data plan while reducing cost to the customer through avoidance of overage charges.

“I see a two to three percent increase in overall ARPU, and five to six percent improved revenue from value-added services.”

— Former vice president, Wholesale, Business and Operations, major U.S. CSP ²⁶

Part of this effort involves increasing sales of existing offerings. Simply making a service available is not enough; customers need to be actively engaged, made aware of it and given good reasons to sign up. The other side of the coin is service creation and delivery. Increasing the efficiency of the value chain through autonomies and collaboration can speed time-to-market. That is essential in the highly competitive communications marketplace.

Ask yourself...

- Are we able to run multiple systems and processes without experiencing bottlenecks and delays?
- To what extent do we automate end-to-end business processes?



Capture all available revenue

Income lost through inaccurate billing or usage tracking can be a serious drain. Recovering this revenue takes accurate metering and invoicing, as well as identifying customers who have not paid their bills.

Complexity makes accurate billing difficult. There may be multiple third-party provider relationships for value-added services. There may be per-minute or per-megabyte charges. Add to this the on-demand nature of some products such as pay-per-view programming. It all must be accurately tracked, consolidated and reconciled. Also, customers may have complicated contracts with the CSP. Every additional layer increases the danger for revenue “leakage.”

Telekom Slovenia suspected that it was losing significant revenue because it was not invoicing accurately. By better managing its billing information, the company increased its pretax earnings by almost four percent. Its investment in new billing-related infrastructure reached the break-even point in less than a year instead of the projected 22 months.²⁷

The potential for lost income is not the only issue. Inaccurate billing can also frustrate customers and cause them to abandon the service. The CSP can improve the customer experience by aligning its billing and collections with customer expectations. It can even assist its customers by helping them find the right plan for their needs. With billing records showing the bandwidth a customer actually uses, the CSP can recommend the best fit, possibly saving money for the customer.

Improved billing

US\$64M (10% of overall benefit)

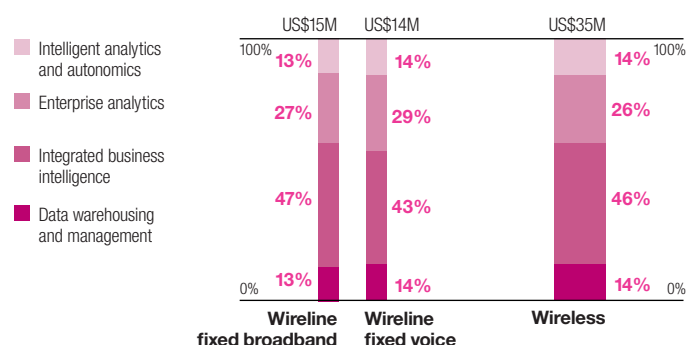


Figure 6: Potential benefits from improved billing after full development of all competencies.

The CSP needs the ability to quickly and efficiently mine call-detail records to uncover revenue retention and recovery opportunities. Analytics and a single view of the customer help to identify questionable accounts faster or to predict when an account may go into arrears. This allows the CSP to trigger automated business processes that can flag an account for customer service follow-up or removal, thus minimizing losses. It is far simpler and less costly to get a customer to pay than it is to try to recover lost revenue after the fact.

“Today, [we have] more than 20 percent churn due to billing errors. [With better billing] this should decrease by one-third.”

– French CSP executive ²⁸

Make the business more efficient

Investing in smarter communications produces most of its benefit by making customers more profitable. There is, however, an extra benefit: operational savings. Efficiencies in information management, along with savings in acquisition and order capture costs may represent just over five percent of the total.

By understanding service usage and customer behaviors, the CSP can identify opportunities to optimize available network resources. If the traffic can be distributed to avoid high load peaks, overall costs can be reduced. This takes understanding consumption and service usage patterns through analytics, and encouraging customer behavior through incentives like pricing.²⁹

One North American CSP used business intelligence and predictive analytics to pinpoint and replace outdated, costly technology in its network. By deploying efficient, easily managed high-performance equipment, it increased bandwidth capacity in some areas by up to 1,000 times while reducing power consumption. The company expects to save millions in energy, operations and third-party service costs.³⁰

Infrastructure built with new technology tends to be more consolidated and integrated. There are fewer systems and less hardware to purchase, license and manage. This, in turn, helps reduce redundancy and improves utilization.

Operational savings

US\$29M (5% of overall benefit)

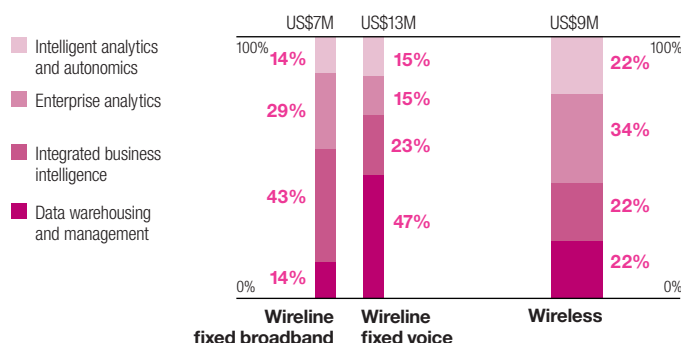


Figure 7: Potential operational savings benefit after full development of all competencies.

Consistent and accurate information also directly affects marketing and customer service by enabling more effective and efficient processes. Less time spent serving customers and signing up new subscribers can lead to reduced call center costs and better productivity.

“Currently, [our order capture] costs are US\$6 per call. [With the right investments] that could be reduced by 20 percent.”

— Director, Technology Strategy, North America CSP³¹

Making the case for investment

The competencies described in this paper show how CSPs can maximize the value of customers by better understanding and reaching out to them. Analytics can help the company with what it needs to create a superior customer experience and greater satisfaction.

The primary purpose of our research is twofold. First, we determined the competencies that CSPs can use to drive better business outcomes. Second, we quantified and estimated the potential benefits of building out specific business capabilities

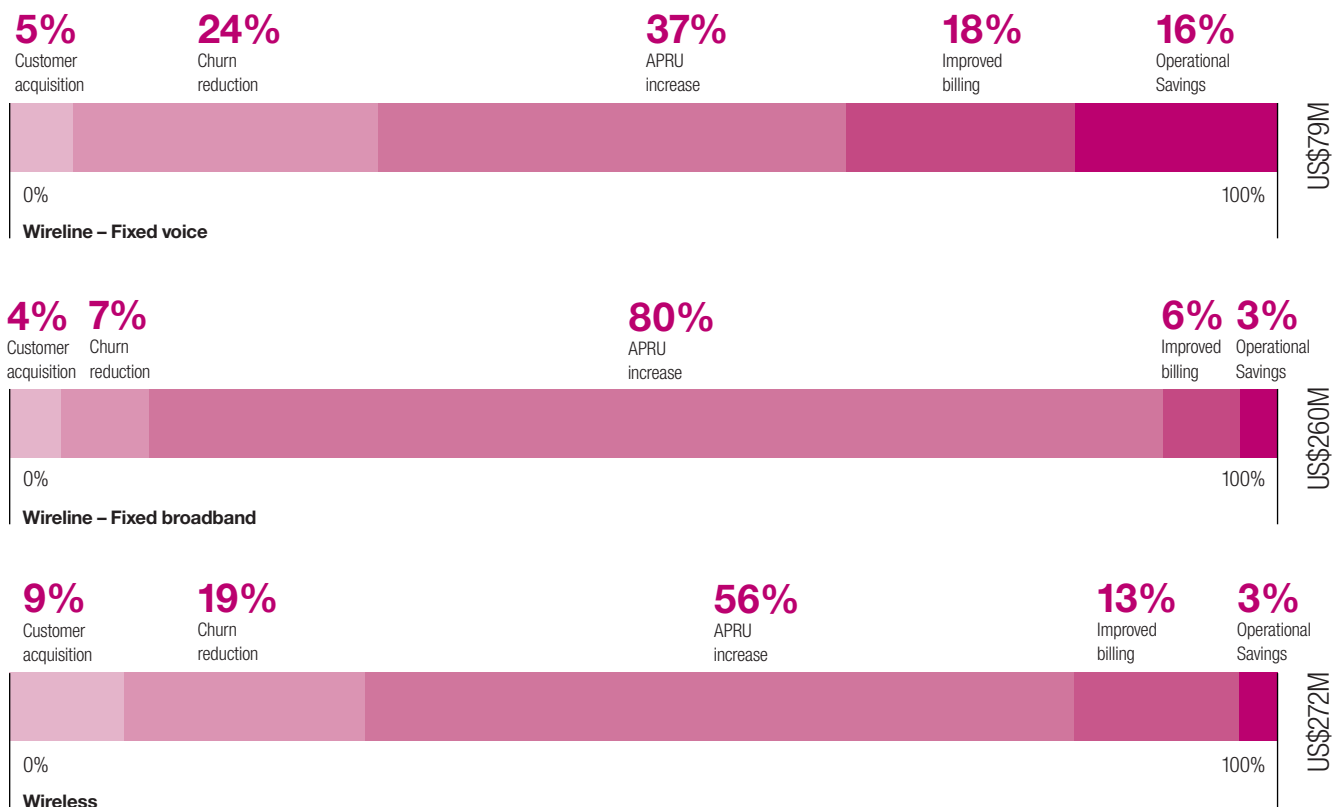
for both wireline and wireless businesses. The projected benefit in this model—over US\$600 million in annual economic benefit for a US\$25B full-service CSP—illustrates that a company could improve its results by making the right investments.

Our vision for smarter communications, combined with the potential financial benefits, tells a compelling story. By acting now to maximize customer value, CSPs will be better able to achieve competitiveness today and business sustainability in the future.

Could this be you?

Potential benefit: US\$611M

Contribution by benefit category



Potential annual benefit in Year 4 after full development of all competencies, broken down by line of business

Figure 8: The aggregated benefit across all competencies and value drivers clearly shows the potential for CSPs. On the wireline side, three-quarters of the overall gain comes from fixed broadband.

Seize the opportunity

The research behind this paper can be applied to many CSP business types, whether fixed broadband, fixed voice, wireless or a combination of all three. Our research demonstrates that each CSP has its own unique set of circumstances, while also showing common threads. By closely examining the individual enterprise and applying lessons learned from the research, we believe a CSP can create a comprehensive, executable future strategy. We encourage you to find out more about how creating smarter communications through analytics can offer long-term value for your business.

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