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IT'S TIME FOR A TELCO BSS REVOLUTION

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BUSINESS SUPPORT SYSTEMS (BSS) are the unsung heroes of telecom companies' day-to-day operations. Yet as telcos move to a digital-centric world, many find that their BSS platforms—which have powered business processes for years—either can't keep up or require a great deal of time, expense, and effort to make the jump. As a result, telcos may not be reaching digital's full potential. And it turns out they're not alone.

BSS vendors may be missing opportunities, too. They could do a much better job of helping telcos transform their BSS platforms—and improve their own competitive standing in the process. Some telcos are already bypassing established vendors and turning to systems integrators and agile new entrants to boost the digital readiness of their platforms.

Telcos and BSS vendors haven't always enjoyed the smoothest of relationships. They have often had—and still have—conflicting agendas. But today, the two sides have something in common: each operates un-

der increasingly challenging market conditions. Around the world, many telcos have been experiencing revenue declines or stagnation. BSS vendors, meanwhile, face price pressure and increased competition. And the bloom is fading from their prize rose: many of the telcos that intended to switch from in-house platforms to off-the-shelf packages have already done so.

Digital can be the disruptor each side needs to spur differentiation and growth. But for this to happen, some fundamental ideas about BSS—how solutions are created and deployed and how telcos and vendors interact—also need disruption. Each side can take important steps on its own to align its approach to BSS with the realities—and the promise—of the digital era. But to truly get ahead, telcos and vendors must work together, as partners in transformation.

How Telcos Can Help Themselves

For telcos, the best opportunities for growth no longer arise from their core offerings in

voice, data, and messaging. The sweet spot now centers on digital offerings in such areas as content delivery, cloud-based services, and even big data and analytics as some operators have started to monetize the information they capture in the course of business. At the same time, many telcos are implementing new features (intuitive, omnichannel self-service, for instance) to improve the customer experience.

As telcos venture into these spaces, they require support from their BSS platforms. Yet they're not always getting it—at least not as easily or effectively as they'd like. What's causing the trouble? We see four main factors:

- **Telco BSS suites typically offer only spotty support for digital offerings.** Digital services in such areas as content, the cloud, big data, and the Internet of Things (IoT) require new kinds of BSS capabilities, such as real-time transactions. Thus, when customers click to buy an on-demand video, for example, their credit balance can be immediately checked and adjusted. Because telcos' current BSS suites don't typically provide these capabilities in sufficient depth or breadth, telcos must make a choice. Do they extend their existing solution to provide the necessary functionality, either developing it internally or working with a systems integrator to add it? Or do they purchase a standalone solution to support their new offering? No matter which route telcos take, the results are often less than ideal. The effort required to develop or integrate extensions can delay the launch of new services. And a separate solution will often add complexity to a telco's operating model, because there are now more systems to manage (even in a well-architected environment, the demands tend to be higher).
- **Support for the digital transformation of core telco services is lagging as well.** Digital is also changing the way telcos manage, sell, and support their core services. Increasingly, telcos are adopting a digital-first paradigm, which

calls for less reliance on manual processes and more emphasis on automation. Many traditional telco transactions (provisioning, for example) now occur without human intervention and in real or near-real time. Telcos are also looking for more personalized interactions with their customers, using big data and analytics to tailor marketing and upselling efforts to specific customers and segments. Like the new digital services that telcos are pursuing—or hoping to pursue—these processes require BSS support that isn't always available. Here, too, building extensions or adding standalone solutions can increase time to market and IT complexity.

- **BSS vendors have eschewed standardization in favor of proprietary interfaces.** While network technology products increasingly use standard interfaces—an approach that enables telcos to easily combine offerings from different vendors—the story is different for BSS platforms. Because vendors often don't use standardized application programming interfaces, connecting different systems can be a long, difficult, and costly endeavor. Instead of being able to plug a new system into an existing platform and get new capabilities up and running quickly, telcos must build or buy a customized connection—and wait while it is tested and implemented. Besides hindering innovation, this situation complicates efforts to form partnerships. Companies that could work together to pursue new markets and business models may find that their systems don't connect seamlessly.
- **Fear and inertia delay BSS transformations.** Telcos tend to shy away from BSS transformations, in part because overhauling systems can take two to three years and cost \$200 million or more. Instead of taking the leap—and the risk—telcos are prone to follow a wait-and-see strategy.

On their own, telcos won't be able to fully address these challenges. BSS suites, for ex-

ample, will offer deeper support for digital services only if vendors build such support into their products. But telcos can do some things to get digital offerings and capabilities into the field faster. Three steps are particularly important:

- **Embrace high-speed BSS.** Telcos need to adopt a more modern development process for their BSS, incorporating agile methodologies and even DevOps, which extends agile to the full software life cycle and stresses automation. By embracing the tenets of this new way of working—iterative development, continual feedback, and greater use of automation in testing, deployment, and monitoring—telcos can speed the implementation of BSS extensions and standalone solutions.
- **Transform only where necessary.** Not all parts of a BSS solution have the same potential to provide competitive advantage. Some areas in which telcos used to be able to gain an edge, such as call centers, have become commoditized; by now, everyone has caught up. These parts of the BSS platform don't require transformation. Resources and development, in an agile way, should concentrate on areas where differentiation can bring the greatest payoff. One promising place to focus: big data and advanced analytics, ideally in coordination with social networks. A social media component can give telcos a better understanding of customer needs, and it can even help reduce churn; one of the biggest red flags raised by customers is when their friends and family switch operators.
- **Adopt BSS divergence-convergence cycles.** Although new telco offerings might require new BSS systems, the last thing a telco wants to do is disrupt its existing businesses, especially if there is no guarantee that the new offerings will be successful. In other words, not everything should converge onto a new platform, at least not immediately. A better approach: employ divergence-convergence cycles. A telco would start

by putting the BSS systems side by side, with few connections between them. (If the systems work with the same data, rules must ensure that the information remains consistent between platforms; a change made in one system must trigger an immediate reflection in the data used by another.) This allows the telco to take risks with new services and processes while ensuring that existing businesses and processes continue to run smoothly. It also lets the telco use agile methodologies and DevOps to develop the new BSS solution while continuing to use more established and familiar practices for the existing BSS platform. If the new offerings ultimately succeed, the telco may indeed converge some of the older services onto the new platform, though it might want to let struggling services die over time. The idea is to hit the convergence button when the risk of disruption is lowest.

A Game Plan for BSS Vendors

For BSS vendors, lack of out-of-the-box support for digital means lost opportunities. If telcos—which spend 2% to 3% of their revenues on BSS—aren't getting what they need from their traditional vendors, they'll turn to other providers. And they won't need to look far. A growing number of startups and other new entrants are offering specialized solutions, particularly in such business niches as the IoT. Systems integrators—which can help telcos build best-of-breed platforms using software from multiple vendors—are also getting the call.

Given the size of the BSS market (\$25.1 billion in 2015), it's no surprise that so many players are entering the fray. Nor is there any doubt about the risk they pose for established BSS vendors. Every time a systems integrator or a new market entrant wins business, it gains a chance to build a relationship with the customer. The stronger that bond grows, the weaker an established BSS vendor's position becomes.

One could argue that vendors would probably lose these opportunities anyway. As telcos move into digital services and capabili-

ties, they might actually prefer to work with new partners. Instead of expanding existing product suites and vendor relationships, telcos might choose to find and integrate the best components available, regardless of source. Some telcos have indeed discovered that a multivendor, best-of-breed approach can spur innovation and competition and lead to lower cost. Yet in interviews with telco executives, we found that, given the choice, many operators would still opt for a single-vendor, best-of-suite solution. They would do so to reduce complexity in the integration and to create a single point of accountability among vendors in order to eliminate finger-pointing when things go wrong.

Of course, a preference for best of suite doesn't mean much if no BSS suite fits the bill. Vendors need to extend their product suites to support digital. But there's a hitch: BSS vendors have generally had only limited success as organic innovators. Although vendors invest considerable resources—roughly 8% to 25% of their revenues—in R&D, many still lack the expertise and focus needed to develop digital elements from scratch. Organic innovation has lagged particularly in such areas as big data and mobile, where systems integrators and startups have been quicker to move and quicker to make inroads.

The good news is that BSS vendors, like telcos, can take steps to improve the situation. The following practices aren't a panacea, but they can lay the groundwork for better innovation and greater competitiveness:

- **Innovate via M&A.** One way to tackle the organic innovation challenge is to stress *inorganic* innovation. This isn't an entirely new idea for BSS vendors. Some have looked to M&A to extend their offerings across the value chain, to functions as varied as billing, customer relationship management, and order management. Vendors should now focus more of their M&A efforts on digital capabilities. Acquisitions are the fastest way to make up ground and get compelling features and products out the door.

- **Extend and expand the BSS suite.** Providing support for digital offerings and capabilities is essential, but it is just a baseline step. Before long, such functionality will be table stakes for BSS suites. To differentiate themselves, vendors should consider adding functionality that operations support systems now provide, as well as capabilities (particularly in such areas as business intelligence and advanced analytics) that users tend to acquire via standalone solutions. Vendors should also try to anticipate future trends. Artificial intelligence, for example, could be another potential focal point. The end-to-end super suites created by adding such functionality would increase efficiency and reduce complexity for telcos—and make a very compelling value proposition.
- **Respond to price pressure with scale, functionality, and tools such as DevOps.** BSS vendors can mitigate the impact of price pressure by reducing their cost structure and boosting the productivity of their software development process. DevOps—and the automation it brings—is key here. But so is better management of workloads and production, to keep downtime—of both equipment and personnel—at a minimum and produce more units with a given amount of resources. Of course, creating unique and compelling functionality can mitigate price pressure, too. Unlike more commoditized offerings, differentiated products can justify premium pricing.

Partners in Transformation

Implemented wisely, the actions outlined above can help both sides achieve better outcomes. Telcos can deploy digital services more quickly and more effectively; BSS vendors can improve their value propositions and competitive standing. Taking some additional steps could improve outcomes further, but those steps require telcos and vendors to work less like parties to a transaction and more like partners in a transformation.

How would this work? Perhaps the more immediate question telcos and vendors will ask is “*Could* this work?” These two sides interact more often than they collaborate. And this has had consequences, though they may not be readily apparent. Consider, for example, telcos’ reluctance to undergo BSS transformation. Their hesitation is understandable; the process is costly and risky, and it comes with no guarantee of success. Indeed, many transformation projects *don’t* deliver all of their expected benefits. But BSS vendors do little to spur telcos to action. Typically, telcos pay vendors for their work whether the benefits materialize or not, so there is no connection between payment and result. That may seem great for the vendor, but in the long run, it’s not; when telcos delay a BSS transformation, vendors also lose.

Similarly, consider DevOps, which has already proved to be a powerful way for many technology companies to manage the full software life cycle, from development to operation. Many BSS vendors have adopted DevOps, yet the practices rarely extend past the handoff to telcos, which tend to do their testing and integration the old-fashioned—and lengthy—way. When DevOps practices don’t span both companies—vendor *and* telco—there is often a substantial interval between when a vendor delivers a new feature and when the telco actually implements it.

As partners in transformation, telcos and BSS vendors could help each other reap benefits. A BSS vendor, for instance, might create business models that share a telco’s risk in BSS transformation projects. One approach would be to focus service level agreements and KPIs on the customer experience—looking, for example, at the time needed to complete service changes or to top up a prepaid card—rather than on system availability and other technical parameters. By doing so, the vendor would encourage telcos to transform—and to do so via the vendor’s products.

AS THE BSS landscape grows more complex, telcos and vendors must act—on their own and together—to create true win-win situations. Vendors need to develop the expanded platforms and risk-sharing business models that will enable telcos to more quickly implement digital initiatives. Telcos need to embrace new methods for deploying and running their business support systems. By working in new ways—and learning to work as partners—telcos and BSS vendors can hold competitors at bay, grow their own businesses, and innovate like never before.

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