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Facing Up to the Future

A New Operating Model for Telcos

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AT A GLANCE

The financial pressures now buffeting incumbent telcos are a clear signal: they must finally face up to the hard choices presented by the fracturing of the sector into four distinct subsectors. Survival requires a comprehensive commitment to a new, decentralized operating model that addresses current challenges and anticipates future ones. The transformation will be arduous—and time is short.

A MODULAR MODEL

BCG's model provides a template for recasting the organization into operational blocks specifically designed to address each subsector: network owner, network operator, service provider to specific segments, and digital-services unit.

CLARITY AT LAST

With open interfaces, the telco can assemble the best set of building blocks—whether internal or external—to serve a given customer segment.

GETTING THERE

The clock is ticking. We believe that telcos need to fully implement the new operating model within three to five years. It's a massive undertaking, but the telcos that can transform themselves most quickly will create the most value.

OVER THE LAST DECADE or so, telcos in developed markets have kept investors happy largely by operating like well-run utilities and paying steady dividends. It was therefore big news when several major European telcos—including Telefónica, France Telecom-Orange, Telecom Italia, and KPN—recently announced in quick succession that they would be forced to reduce payments to shareholders. There was no mystery, however, about why the companies had come under financial pressure. Among the developments cited in media accounts:

- Tough competition in most major markets, exemplified by the mobile price war that broke out in France following the arrival of low-price operator Free Mobile. Free Mobile offers unlimited mobile service for just €19.99 per month.
- Rapid erosion of telco revenues by so-called over-the-top, or OTT, services. Telecom operators lost \$13.9 billion in SMS revenues in 2011 because of social messaging services, according to market researcher Ovum. Researchers at Informa calculate that every 10 percent increase in smartphone use in Western Europe could cost operators \$1.19 billion in voice and messaging revenues.
- The need to invest tens of billions of dollars over the next decade to build next-generation networks—even as the telcos face continued regulatory pressure to keep tariffs low.

With signs of upheaval so obvious, the sudden course change on shareholder payouts might have led a casual observer to wonder if telco executives had somehow been caught napping. The reality, of course, is quite different. They are far more likely to be sleeping too little than too much.

The predicament keeping them awake at night is easy to state but hard to solve: How can telcos respond to the nimble, specialized competitors attacking simultaneously on several fronts? The tasks at hand range from figuring out how to ride the wave of innovation in OTT services to tailoring service offerings for different customer segments to efficiently managing large networks in multiple locales. Pulled in all these directions, traditional telco operating models that were shaped in an era of government-owned monoliths are showing signs of severe strain. (See Exhibit 1.)

Meeting today's varied challenges calls for agility—but companies are hamstrung by complexity. It calls for lowering costs further, but traditional cost-cutting opportunities have reached their limit. It calls for capturing synergies in international

How can telcos respond to the nimble, specialized competitors attacking simultaneously on several fronts?

EXHIBIT 1 | The Traditional Telco Operating Model Is Showing Signs of Strain

Current challenges

- Innovation in OTT services is outpacing telco integration capabilities and eroding telco revenues
- Diverging customer segments (such as corporate versus consumer or premium versus discount) require increasingly different service offerings
- Customers want multichannel access, with increased emphasis on online
- Cross-border synergies are hard to achieve
- Stovepipe IT architecture is a major obstacle

Future requirements

- The ability to integrate new services into bundles rapidly and cheaply, and to benefit from digital revenue streams
- The ability to efficiently tailor offerings by having multiple service providers and brands interface seamlessly with the same network factory
- The ability to support multichannel access and handle 80 percent of simple transactions online
- The ability to carve out and pool core areas for international synergies
- New, modular IT architecture based on shared standards and open interfaces

Source: BCG analysis.

Note: OTT = over the top.

operations, but apart from greenfield situations, telcos haven't yet been able to do that. Most fundamentally, it means facing up to the hard choices presented by the fracturing of the sector into four distinct subsectors, each with very different business characteristics and economics.

If incumbent telcos are to survive in this new landscape, they have no choice but to reinvent themselves. We believe they have only three to five years to accomplish this. In our August 2010 report *The Future of Telecommunications*, we described the different strategic subsectors in which telcos can hope to play. The clear message of the recent dividend crunch—and of the negative reaction from financial markets—is that the telcos urgently need to choose their battles and get on with the transformation needed to win them. Tactical forays on one front or another won't be enough to ensure survival. Only a comprehensive commitment to a new operating model—a decentralized, adaptive structure that addresses current challenges and positions telcos to face future ones—can do that.

The migration has already begun at some companies. Telefónica's move in September 2011 to reorganize itself and launch a U.K.-based digital unit is probably the most dramatic example. No company, however, is close to completing the transition.

For incumbents, the hurdles will be many. Top management must embrace the idea of running a portfolio of businesses, granting units a degree of autonomy while requiring them to be competitive within their subsectors—all under the watchful eyes of the financial markets. The stovepipe IT structures that still predominate at most telcos must be supplanted by systems based on open standards. A large and controversial workforce transition—involving staff reductions and outsourcing, as well as recruitment of new talent—will be unavoidable.

Indeed, it isn't even possible to say with certainty where the journey will ultimately lead. Different configurations of businesses will make sense for different telcos.

Deciding where to step up and where to step back will be top management’s most important responsibility in the next few years.

But, like it or not, a journey of one kind or another is unavoidable. One path is arduous, but it leads to a world where telcos can innovate more quickly, participate more fully in future services, roll out networks more effectively, and cut operating expenses significantly. The other path leads to obsolescence.

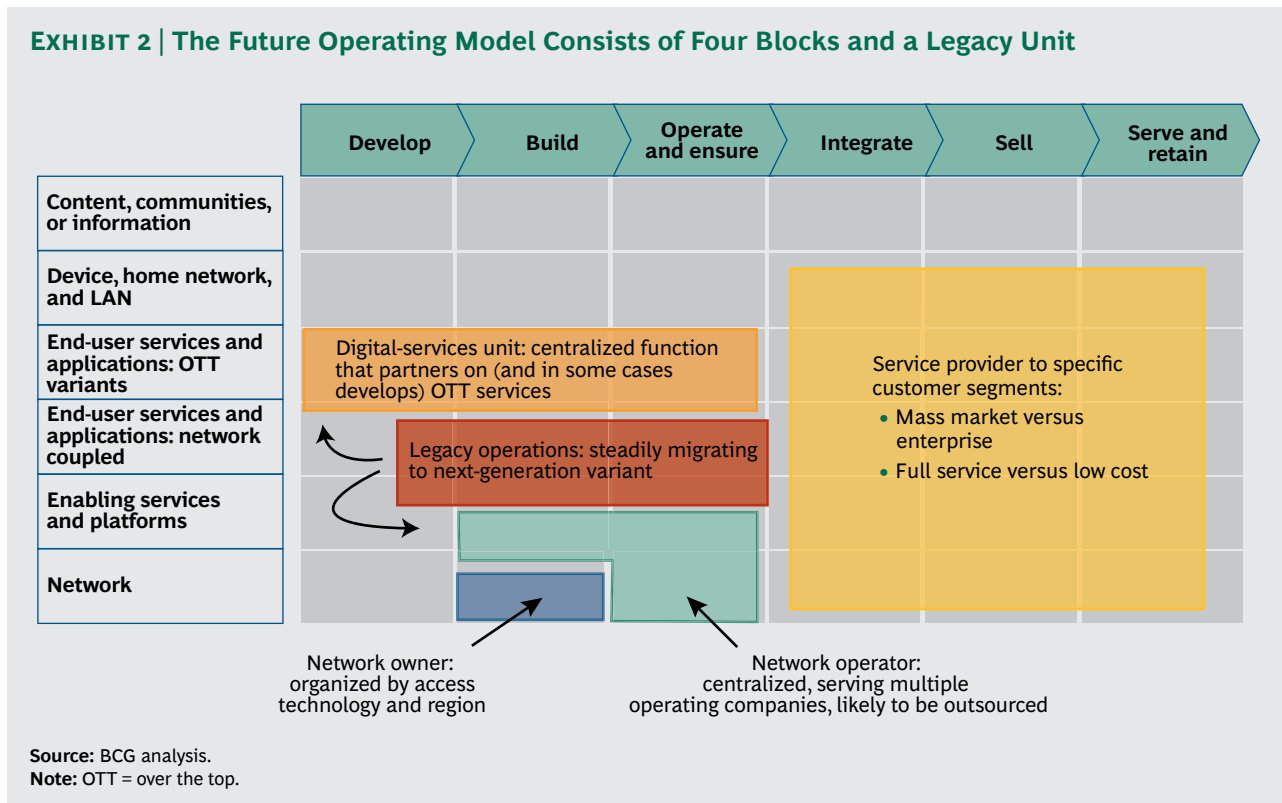
A Modular Model

The new operating model we advocate is a flexible framework, not a fixed architecture. The flexibility, which is meant to enable a telco to adjust its strategic focus as required in a fast-changing industry, also makes it easier to get started on an urgent transformation.

The model first identifies the major subsectors into which the industry is being divided as technology charges ahead, specialized newcomers enter the fray, and incumbents adjust their focus. Then it provides a template for recasting the organization into operational blocks specifically designed to address each subsector. We have identified four such blocks. (See Exhibit 2.)

NETWORK OWNER

In a world of increasingly diverse network footprints, both in mobile and in fixed, the advantages of separating network ownership from network operation are becoming clear.



Like the real estate business, network ownership is an activity in which deep local knowledge pays off. Much as property companies tap their familiarity with terrain and traffic to acquire and develop the space they lease out to retailers, network owners can draw upon theirs to develop infrastructure that they will lease out to service providers. With their granular view of utilization, they will be best positioned to guide decisions on where and how to invest in next-generation networks, including the best access technology—fixed or mobile—for a given neighborhood.

Telcos in developing markets have led the way in outsourcing network operations, turning what was initially a necessity into a big competitive advantage.

This approach is a big departure from current practice. Most telcos still own their networks and think in terms of rolling out a particular technology nationwide rather than identifying areas that will be receptive to a new service and figuring out the best way to deliver it to them.

But as investment needs grow and marketplace pressures mount, some telcos are embracing new network-ownership structures, especially network sharing. In the U.K., Vodafone and Telefónica (which operates the O2 mobile service) recently announced plans to combine their mobile network infrastructures in a fifty-fifty joint venture. A major motivation for the deal, which deepens and extends a 2009 agreement, is the companies' desire to share the costs of building a fourth-generation network.

The idea of standalone, open-access network companies is gaining favor as well. An example here is Metroweb, owner of a fiber-to-the-home (FTTH) network with more than 7,200 kilometers of cables serving metropolitan Milan. Metroweb has been majority owned since mid-2011 by infrastructure fund F2i, which recently presented a project to the Italian parliament that would bring fiber to homes in 30 additional Italian cities at an estimated cost of €4.5 billion. The rollout could be completed by 2015, according to F2i, and the network would be open to all service providers.

NETWORK OPERATOR

Unlike network ownership, network operation is an activity that calls for scale. Not coincidentally, it is also an area where the need to move from standalone to open IT systems is especially acute.

Three priorities stand out in network operation: the best performance and the most efficient implementation of new technologies at the lowest cost. Applying standardized processes across a large volume of work helps achieve all three objectives. Add in the growing ability of engineers to work remotely rather than on-site, and network operation becomes a prime candidate for outsourcing and offshoring. Some of the most important decisions awaiting incumbent telcos will concern which network operations they should outsource and which they should keep in-house.

Telcos in developing markets have led the way in outsourcing network operations, turning what was initially a necessity into a big competitive advantage. Bharti Airtel, for example, used an outsourcing-based business model to become the mobile leader in India and is now applying that model in Africa. (See the sidebar "Bharti Airtel: Facing the Future in Africa.") Now many other companies, including developed-market incumbents, are looking to follow suit.

BHARTI AIRTEL

Facing the Future in Africa

Bharti Airtel has received plenty of accolades over the past decade for its trailblazing business model, and no wonder. By outsourcing large blocks of its operations to specialists and focusing on the customer experience, it has become the largest mobile provider in India and number five in the world. The telco now oversees an ecosystem that includes Ericsson, Nokia Siemens Networks, and Huawei, which build and manage its networks; IBM, which handles its IT; and Bharti Infratel, the subsidiary that pioneered passive-infrastructure sharing in India.

Still, Bharti met with some skepticism in 2010 when it bought the African operations of Kuwait's Zain for \$10.7 billion. Bharti said it would use its model to bring high-volume, low-cost service to the 16 sub-Saharan nations where Zain was active. But would the model work in markets even less urban, and with smaller middle classes, than those in South Asia?

Bharti forged ahead. It has struck deals with familiar partners—

Ericsson, Nokia Siemens Networks, Huawei, and IBM are all participating—and pushed for shared infrastructure with competitors, as in India. Postacquisition investment in Africa now tops \$2 billion.

Two years on, the results look promising. The operations are not yet profitable, but revenues are growing briskly, hitting \$4.1 billion for the year ending March 31, 2012. And the company says it's on track to meet its goals of \$5 billion in revenue and \$2 billion in EBITDA from Africa in fiscal year 2013.

In March, Bharti launched 2G and 3G service in Rwanda, adding a seventeenth African market. Ericsson, which is managing the Rwandan network, says it took a mere 83 days to build it from scratch—the fastest-ever greenfield launch in the region.

Given the hypercompetitive and nearly saturated market in India, the progress in Africa couldn't come at a better time for Bharti.

SERVICE PROVIDER TO SPECIFIC CUSTOMER SEGMENTS

For most telcos, this operational block will remain the heart of the business—provided they can manage it effectively. Given how much the world has changed since telcos sold most customers similar phones and the same dial tone, that is not a certainty. Competing amid the current profusion of customer offers is a job for a nimble, focused unit that battles for share in a given segment with the same intensity that a consumer products company would bring to the fight.

In competitive markets, companies are increasingly turning to multibrand approaches. In France, for example, the advent of Free Mobile prompted the launch of low-priced brands by France Telecom-Orange, which introduced its Sosh brand, and Bouygues Telecom, which rolled out its B&You brand. In Germany, where the

low-price segment is older, Deutsche Telekom's Congstar competes with E-Plus's BASE brand and Telefónica's Fonic offering, among others.

The logic is clear: by tailoring services for specific segments—whether defined by price, level of service, ethnicity of the customer base, or other parameters—a telco can gain market share while improving price realization. Our research indicates that launching a successful discount brand, for example, can actually increase revenue by 10 to 15 percent for most incumbent telcos.

But managing multiple brands within a centralized, monolithic organization is difficult—and growing more so as competition accelerates. To focus fully on the customer segments they aim to serve, second (and third) brands need a degree of independence and flexibility that will come only with the adoption of a new, decentralized operating model.

DIGITAL-SERVICES UNIT

As OTT services from Facebook, Skype, and others, as well as cloud services like Amazon Web Services, capture a growing share of the value generated in the telecom ecosystem, it's crucial for telcos to find a way to participate in them more fully. Here the formation of a dedicated operational block is especially useful, because the speedy, collaborative test-and-learn methods used to create many innovative services are so different from the structured approaches traditionally used by telcos.

Some major telcos have already moved to concentrate their digital efforts in a single, more effective vehicle. London-based Telefónica Digital, formed last fall, has a broad mandate that includes cloud computing, mobile advertising, machine-to-machine communications, and e-health services. Also last fall, the Norwegian incumbent Telenor created a digital-services unit, one major piece of which is Comoyo, the developer and aggregator of Internet services that Telenor launched last year.

An effective digital unit is a telco's best means of claiming a piece of the action as major new services such as mobile payments take off. Building one will require some frank self-assessment, however. Companies will need to make a realistic appraisal of their development and partnering capabilities. They will also have to decide where to locate non-OTT innovation activities, such as IPTV. Our view is that efforts like IPTV, which benefit from cross-border scale, will usually fit best in the digital unit.

Most telcos will end up choosing one of three models for their digital-services unit. In the simplest, the unit acts as a sort of procurement department, forging partnerships to give the service provider unit access to services developed and hosted outside the telco. The second model moves hosting and user configuration for some services in-house. In the third and most ambitious model, the unit develops some of its own services as well.

Standards and open interfaces will be essential for the digital-services unit, just as they will for the network-operations and service-provider units. Autonomy will be important, too. Telcos with units that develop their own digital services will be wise to let them sell to other operators and resellers. Similarly, their own service-provider

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units must be free to work with rivals when they have the best piece to add to a customer offering.

LEGACY OPERATIONS

The framework we’ve sketched still leaves some traditional telco operations without a home. These older services, along with the infrastructure that supports them, need to be phased out. As BT Group showed in the second half of the last decade, an effective way to do this is to outsource the legacy operations and wind them down at an appropriate pace. It’s an approach that relieves management of at least one burden at a time when multiple transformations are under way.

Clarity at Last

Breaking the telco into distinct operational blocks brings two important points into focus. First and most obvious is just how different the blocks are, strategically, operationally, and financially. (See Exhibit 3.) What once was a monolith is now a diverse portfolio of businesses, and those in the C-suite will need to manage them accordingly.

The second point is that the modularity of the new operating model offers a solution to the excessive complexity that’s at the root of so many telco problems. If each of the blocks can also be endowed with some operational freedom, it should be possible to improve the competitiveness and financial performance of the company as a whole.

Giving the blocks this flexibility, however, requires overcoming a significant obstacle—specifically, the IT infrastructure of the typical telco. Currently most telcos

EXHIBIT 3 | Characteristics of the New Operational Blocks

	Characteristics	Revenue pool	EBITDA margin range	Capex intensity	Key risks to manage	Expected benefits of the new model
Network owner	“Real estate” business	20%–30%	65%+	Very high	Utilization risk	Better geographic targeting: ~10% better utilization of access
Network operator	Outsourcing business	10%–20%	~10%	Low	Operational: delivery versus contract	>40% lower costs
Service provider	Intelligent packager and retailer	30%–40% ¹	~20%	Low	Reputation and operational risk	30%–40% lower costs; 75% shorter product-introduction lead-time; better customer service
Digital-services unit	Internet services business	10%–30%	~25%	Medium ²	Success rate of innovations	Revenue growth
Legacy operations	Incumbent network business	0% long-term	~40%	High	Matching migration speed to next-generation business	>30% lower costs

Source: BCG experience.

Note: The EBITDA estimate assumes a reasonably well-run operation. The EBITDA margin is measured on the full revenue base. The revenue pool does not add up to 100 percent, because subsidies represent “leaks” in the system.

¹This range represents the gross margin accruing to the service provider.

²Assuming that product development costs are capitalized.

don't have standard interfaces between the product development function and the network factory on the one hand, and between marketing and sales on the other. Instead, individual applications run end to end, so that a change in one function requires changes in another.

The obvious remedy is to move to open interfaces, which have played such a big role in the burgeoning Internet-services arena. The liberating power of open interfaces is especially evident in Singapore. In 2008, regulators there licensed two different consortia—a network company and an operating company—to build and run the city-state's next-generation fiber-optic network. Four years later, Singaporeans enjoy robust competition among service providers sharing the use of one of the best telecom infrastructures in the world.

The move to open standards isn't easy for telcos, but companies such as BT have already completed it in their wholesale operations and are enjoying the benefits. Once the standards are in place, they allow for product-independent interactions among the service provider unit, the digital-services unit, and the network operations unit. Each operational block is able to deal with the business dynamics of its own industry subsector without unduly complicating life for other operational blocks.

With open interfaces, moreover, the telco can assemble the best set of building blocks—whether internal or external—to serve a given customer segment. For OTT services, the service provider unit can look either to the telco's own digital-services unit or to an outside provider, depending upon which would make for a more compelling customer offer. The blocks can combine in other ways as well. For example, the telco could use the same network-operations unit to support two different service providers: one for a discount offering, the other for a premium service.

Breaking operations into semi-independent blocks will also help the telco capture those elusive international synergies. Network operations can be centralized and scaled up without major changes in the service provider unit. The same is true for the digital-services unit, which can be run out of a single large data center. Within the service provider unit, development and maintenance of business support services can be shared among similar service providers.

These improvements in flexibility and efficiency, we believe, will lead directly to gains in overall competitiveness and financial performance. Telcos that move to the new operating model can expect substantial benefits, including the following:

- *Shorter Innovation Cycles.* For many telcos, service introductions currently take 9 to 18 months, and changes in pricing structure take 3 months or longer to implement. We have seen telcos using the new model achieve 3-month service introductions and 3-week pricing-structure changes.
- *Better Targeting of Investments in Next-Generation Networks.* The industry faces an investment of hundreds of billions of dollars in fixed and mobile networks over the next decade. By tapping the deep local knowledge of network ownership units, telcos can achieve the penetration rates needed to make rollouts economically viable. We have seen detailed geographic targeting of network rollouts increase return on capital by more than 20 percent.

By tapping the deep local knowledge of network ownership units, telcos can achieve the penetration rates needed to make rollouts economically viable.

- **Lower Costs.** We expect the new model to cut operating expenses by 30 to 40 percent for most telcos, thanks mainly to reduced product complexity and international scale benefits. For one telco, international synergies in the service provider have already reduced costs by 20 percent.

Getting There

There is no doubt that rebuilding the operating model of an incumbent telco along the lines we are advocating is a massive undertaking. The implications for the organization, for its IT infrastructure, and most of all for its employees are profound.

A “big bang” approach typically won’t be the best one. Most telcos will probably be more successful if they begin by establishing a governance model based on our framework. Even while retaining the current organization structure, it’s possible to use a series of discrete initiatives (we call them overlays) to begin to alter the trajectory of the business.

But the clock is ticking. We believe that telcos need to fully implement the new operating model within three to five years. Companies can choose to move more slowly, but given the pace of industry change, the benefits of the new model, and the looming threat of obsolescence, it’s difficult to make the case for doing so. (See Exhibit 4.) The telcos that can transform themselves most quickly will be the winners in terms of value creation. To claim the prize, however, they’ll have to clear some high hurdles.

Organizational paradigms die hard, especially at companies not all that far removed from their days as vertically integrated national monoliths. While cooperation with competitors may be familiar in some wholesale sales units, elsewhere it’s still a recipe for culture shock. Managing international operations by means of

EXHIBIT 4 | Slower and Faster Paths to Implementing the New Operating Model

Use overlay steering

- Keep the current organization structure
- Adapt processes, IT, and steering to capture key benefits
 - Wholesale–retail interface in IT and processes
 - Distinct operating blocks used in planning and reporting, with dedicated KPIs
- Drawback: hard to capture international synergies

Adapt the organization

- The organization mirrors key blocks of the operating model
 - Units serve multiple countries where relevant
- Run different operating blocks as separate business units
 - Use arm’s-length transfer prices based on commercial deals
 - External reporting gives results by business unit

Modify the ownership structure

- Consider different ownership participation in each block
 - For example, infrastructure funds for the network owner block
 - For example, venture capital for the digital-services block
- Advantage: can bring in expertise or cheaper, specific financing capacity
 - Could also be the first step to a specialized, deconstructed future

Stepwise, slower transition

Most drastic, rapid transition

Source: BCG analysis.

national operating companies will be another tough habit to break. Broken it must be, though, if the telco is to realize international synergies in network operations, in procurement, and in IT for the service provider unit.

These changes imply different ways of working for thousands, if not tens of thousands, of people, and the change management effort required will be huge. Traditional telco employees will feel at home and work effectively mainly in areas that are shrinking—the legacy operations and some parts of the service provider block. Meanwhile, the need for new skills (for example, to integrate new services into the CRM system) will rise rapidly.

Human resources planners will need to look five or even ten years ahead to make sure they have the right mix of skills. (See *Turning the Challenge of an Older Workforce into a Managed Opportunity*, BCG report, August 2011.) This will be especially true for telcos that face restrictions on firing employees or that operate in small IT labor markets.

As we've noted, most telcos have a stovepipe IT architecture that is radically at odds with the new operating model, which requires a layerlike IT with clear common interfaces. The good news here is that off-the-shelf applications can serve the operating model quite well, thus providing a good starting point for the target architecture. The bad news is that this still leaves the telco with a major migration challenge.

In coming publications, we will take deeper dives into specific aspects of the future operating model: hybrid network decision-making, complexity reduction, international synergies, and the IT challenge. But for now, the most important message we have to share is simply the urgency of getting on with this transformation.

BCG strongly believes that telcos will need to radically change the way they run their businesses in the coming decade. The upheaval they face is comparable to the dramatic shifts we have seen elsewhere in the technology sector, with the waning of the PC era and the rise of cloud computing. But for the telcos, the risk of falling into obsolescence is particularly high. Future-proof operating models are already coming into view in developing nations, especially in Africa. Do Western telcos have the will to follow their lead?

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