



THE OLIVER WYMAN
CMT JOURNAL
VOLUME 2

EDITORIAL

Welcome to the second edition of the Oliver Wyman CMT Journal. This edition is devoted to insights on how to navigate increasingly competitive and digitized markets. The six features in this edition present our latest thinking and explore the most relevant challenges, while suggesting promising approaches for mastering them.

The first two contributions look at transformational moves to ensure fitness – and thus survival – in consolidating markets. Our lead article discusses the value of group synergies and explains how they can be translated into bottom-line impact. It features lessons learned from our work for leading international operator groups combined with our understanding of market dynamics. The second feature examines how digital players have raised the bar in customer experience and what telecoms can do to accomplish a comparable breakthrough. We argue that they need to drive backend simplification and separate the “marketing view” and the “factory view” if they want to be successful.

The second part of our journal focuses on revenue topics from very different and distinct angles: managing churn is and will remain a main concern for telecoms. Our article explains how innovative ways of dealing with churn have allowed leading operators to retain more customers at considerably less cost. The following article looks at how the playing field for telecoms in Sub-Saharan Africa has changed and what it will take to survive – this will also be interesting reading for audiences in other regions.

In our article on “Modern times”, we take a different angle again and look at the telecommunications business from a regulation perspective. Both the evidence and (increasingly) economic theory state that perfect competition does not benefit innovation. In the article, we share our views on how the regulation of telecoms and the digital environment would need to operate in order to ensure the best outcome for our society as a whole. An interview with Javier Albares – Head of Corporate Strategy of GSMA, which associates nearly 800 operators worldwide – on the future of different operating models and technology trends concludes our ecosystem chapter.

I hope you find the reading inspiring. Please feel free to contact me or my colleagues to discuss the aspects that interest you most!

Best regards,



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We expect that realizing the untapped potential of operational group synergies will be one of the focus topics for operator groups in the coming years.

A vertical photograph on the left side of the page shows a person from behind, wearing a blue kayak and a white headband, paddling on a body of water. The water is a vibrant blue with white foam from the paddle strokes. The person's hair is dark and curly. The kayak is also blue, and a black paddle is visible in the foreground.

GROUP SYNERGIES

UNTAPPED POTENTIAL FOR TELECOMS TO REALIZE NEXT-LEVEL EFFICIENCY

Group synergies offer significant untapped potential for telecoms to realize the required next-level efficiency. Efficiencies can be achieved both through centralization in traditional back-end functions such as Finance and HR, as well as through standardization and sharing of best-practices in local front-end functions. The complexity and time required to implement sustainable group change means that net savings take 2-3 years to achieve. The need to deliver on mid-term cost savings plans makes group synergies a “hot topic” for operators today.



INITIAL SITUATION

The market for telecommunications has reached saturation across the globe, with revenue expected to grow by only 1-3% per annum from 2015 to 2018. The outlook is more negative for Europe than for Asia, where growth is still expected (if slowing).

At the same time, providers worldwide face increasing pressure on margins from multiple directions, such as increasing regulatory pressure on prices and the rise of competing “over-the-top” services to name only two. Significant cash requirements for investment, driven by increasing subscriber voice and data usage and increasingly short technology cycles, such as FTTH, LTE, VDSL and vectoring, which cannot be recouped by revenue and ARPU increases, have increased the need for bottom-line efficiencies additionally.

Telecommunications operators, especially in Europe, have gone to considerable lengths to stabilize their profits. They have achieved impressive results, for example driving down the average OPEX per subscriber by over 30% in Eastern Europe, despite growing usage volumes (see Exhibit 1).

The operational “fat” (from incumbent’s state-owned legacies, for example) has been removed, and opportunities to get low-hanging efficiencies have long been realized – however, the cost pressure will continue.

On average, operators plan to reduce their net OPEX base by 8% in the next three years (see Exhibit 2). These goals can only be achieved by implementing measures that target significant structural changes. We expect that an even stronger focus will be placed on cost-related group synergies.

UNTAPPED POTENTIAL

Financial synergies, for example from international tax levers and group-wide financing options, have been used successfully in the past.

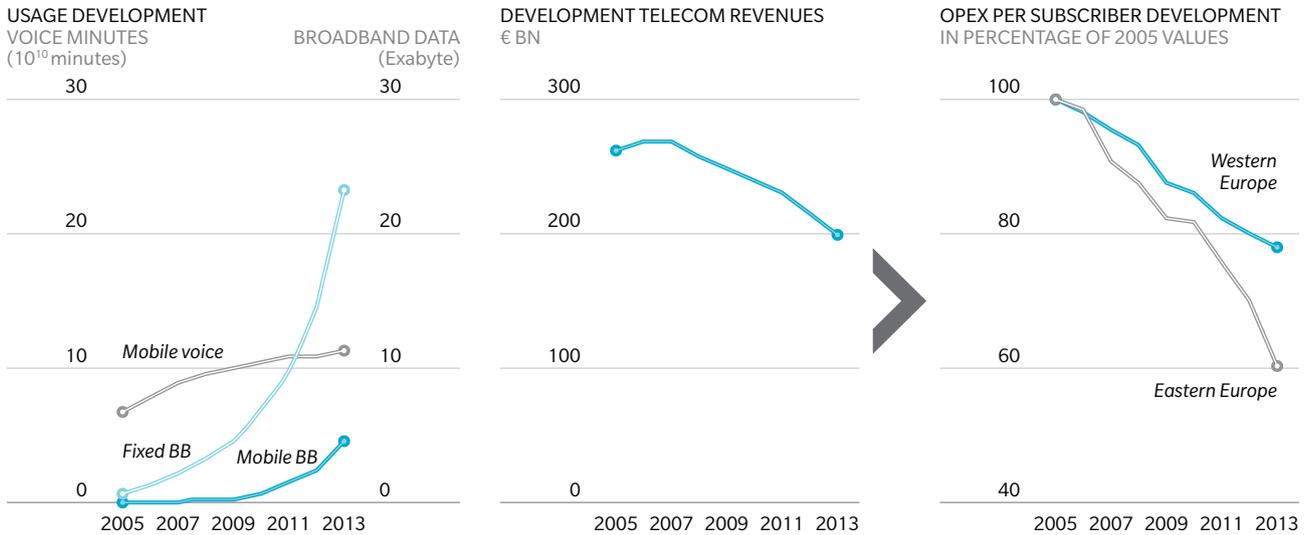
In contrast, the typical operational cost synergies realized so far are widely underdeveloped. Exhibit 3 shows an example of a typical operator situation from an Oliver Wyman qualitative benchmark, where there is no group involvement of any kind in the majority of operational functions. Moreover, leverage of group capabilities is limited to a few specific activities (such as negotiation of roaming agreements), leveraged across most, but not all group operating companies (OpCos).

We expect that realizing the untapped potential of operational group synergies will be one of the focus topics for operator groups in the coming years.

This goal becomes even more relevant with the significant rise in telecoms mergers and acquisitions in recent years: with a global deal volume of \$287 BN in 2013, they are almost back to the record level of the early years of the century. This development is driven to a large extent by expectations of potential synergies, which will now have to be realized.

Exhibit 1: Market situation in Europe

In the last years, European operators have been forced to reduce costs due to shrinking revenues



Growing usage not reflected in revenue development...

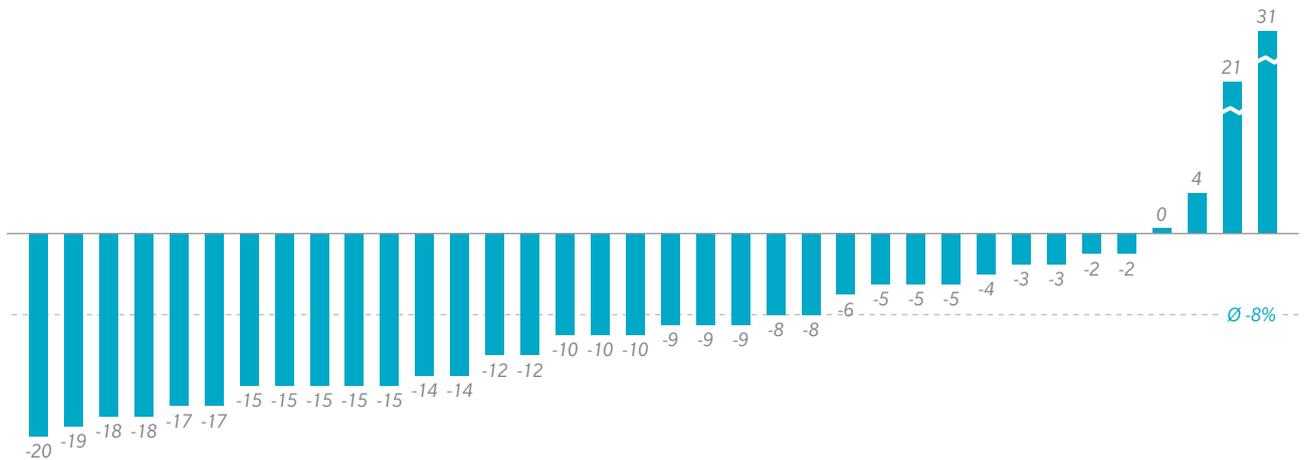
...driving significant cost cuts across the telecom industry

Source: UBS; Wireless Matrix (BoA, Merrill Lynch); Informa Telecoms & Media; CISCO; IEEE; Oliver Wyman Research. Only IP traffic included in Fixed BB

Exhibit 2: Cost ambition benchmarking

On average 8% net cost decrease planned across 36 operators

COMPARISON OF NET 3 YEAR INDIRECT COST BASE PLANS OF 36 INTERNATIONAL OPERATORS IN PERCENTAGE – INDICATIVE



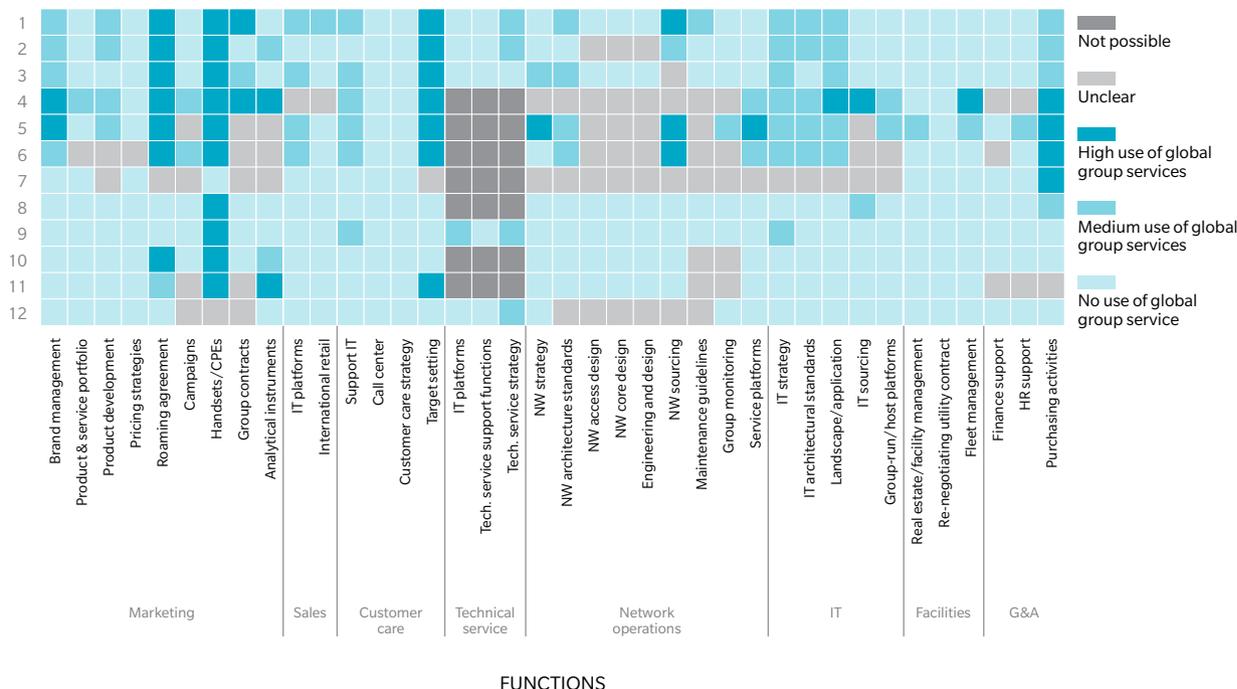
Source: Oliver Wyman



Exhibit 3: Example – Current picture of collaboration

Group synergy potential typically only used in specific functions – untapped potential remains

OPERATORS



Source: ITB 2011 – approximately 50 qualitative interviews

STRUCTURE FOR GROUP SYNERGIES

Our project experience over the last 18 months shows that there is indeed significant group synergy potential that can still be unlocked. Successfully achieving lasting and measurable synergies can mean significantly transforming the group’s structure and processes as well as its culture – at central and national levels.

CATEGORIZATION OF THE DEGREE OF GROUP CENTRALIZATION

The initial situation differs widely from group to group, and often there is no real transparency within the company on how far group synergies have been tapped. To map the group’s starting

position, vision of its target and the barriers to be overcome, Oliver Wyman has developed a framework of four key dimensions (see Exhibit 4).

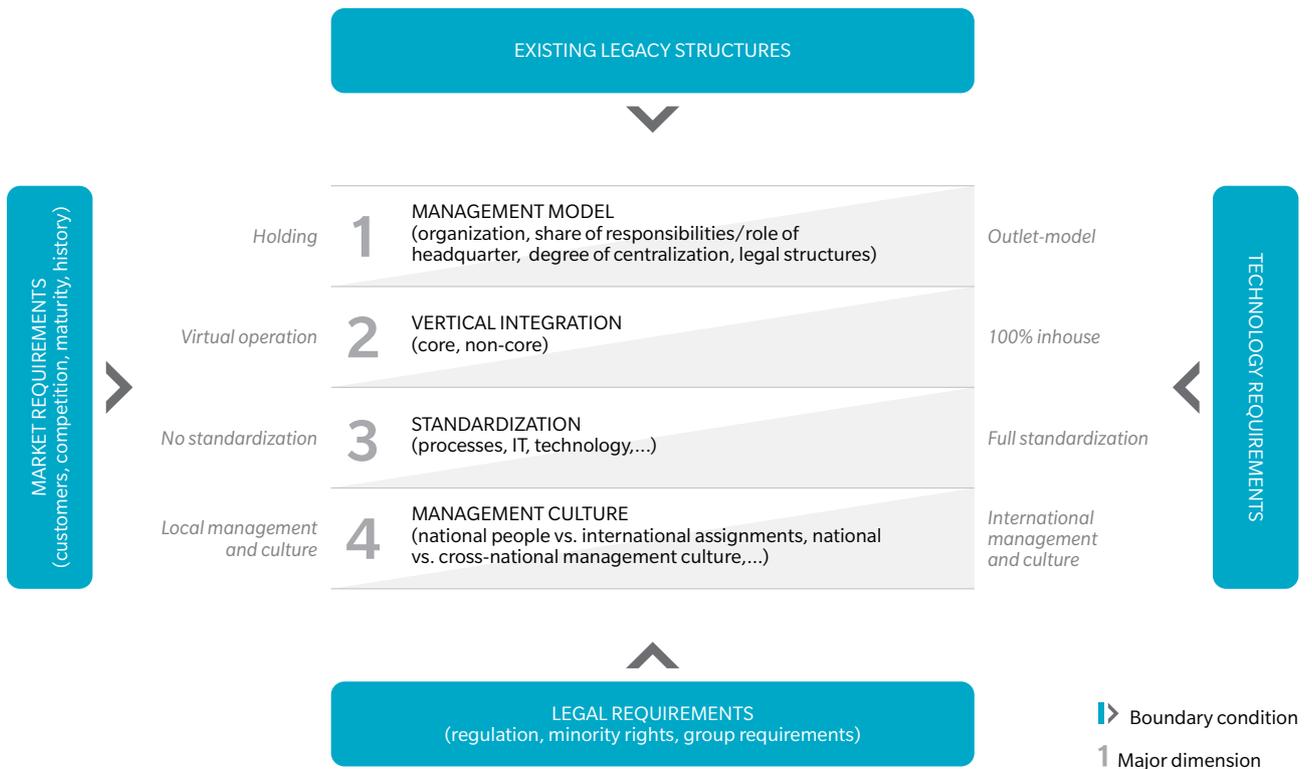
Achieving the highest level of synergy requires moving to a unified, central structure across all dimensions:

- Moving from a holding structure, where local management is controlled by profit targets and is otherwise free to act independently, to a centrally managed “one company” approach, where local “outlets” are managed at group level
- Defining a consistent level of vertical integration across the group with group-wide decisions on centrally or locally outsourced “non-core” activities
- Moving from individual solutions for products (tariffs, handsets, customer-premises equipment (CPE), technology,



Exhibit 4: Framework for centralization levels

Degree of group centricity/involvement for group synergies defined across four key dimensions



processes, applications) to group-wide standard solutions – to finally enable shared central platforms

- Sustainable success requires an international group culture, and planned management career paths, to shift from national progression to varied assignments across the group

Players with national businesses of different size, varying degree of automation, differently applied technologies, and differences in their economic performances have the highest potential remaining to be tapped. A large number of legal entities promise higher potential as well.

BARRIERS TO OVERCOME

In realizing these synergies, significant barriers have to be taken into account (see Exhibit 4), for example:

Legal regulatory constraints: Potential local minority shareholder interests as well as national legal and regulatory requirements (especially for incumbent operators) impose minimum requirements for local management, services and accountability.

Legacy structures: Groups often contain many acquired operators that previously developed independently. Overcoming the existing management structures as well as infrastructure and processes is one of the key challenges for realizing the full group synergy potential, and requires a long-term approach and focus.

Technology: Technological developments in the past have made remote management of networks and common service platforms achievable across countries – but planning, building and maintaining the access network requires local knowledge as well as a local service organization, including local contractors.

Most importantly, the operator’s market environment: Not all functions can be centralized and managed remotely. While it is possible to deliver internal back-end functions remotely, customer-facing activities typically require some local connection (language barriers, for example, as well as local accents may limit the offshoring potential for call centers, and on-the-ground market knowledge is required to react quickly in terms of pricing, promotions, etc.).

TARGET BLUEPRINT

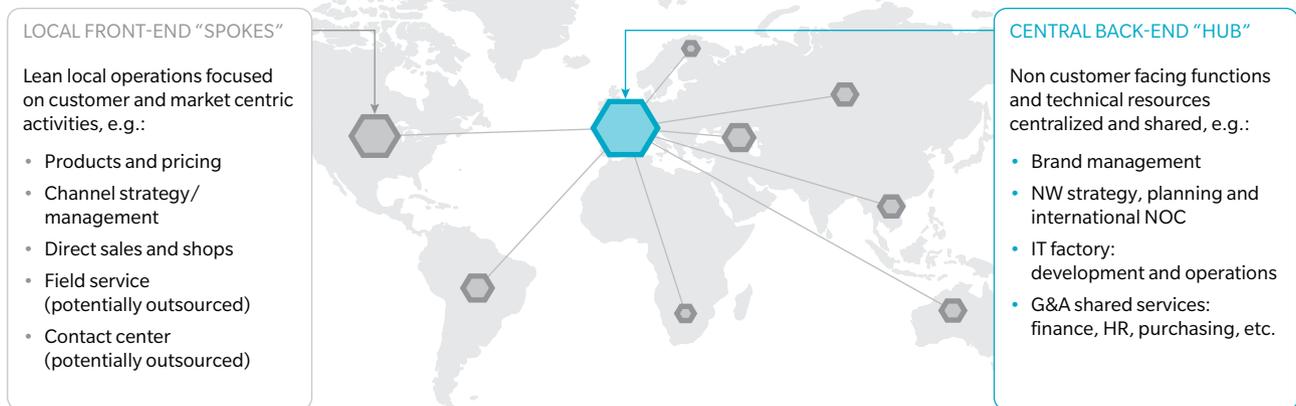
The long-term vision of an efficient operator group fully realizing its efficiency potential will, therefore, be a combination of a central “hub” organization that provides infrastructure and back-end services for multiple lean local “spokes”, which focus on customer-facing and local market functions (see Exhibit 5).

National organizations are kept “lean” by defining the functions that are considered “core”, and therefore need to be provided in-house, and by outsourcing all other local activities (such as contact centers and technical field services).

Achieving this “target blueprint” requires a long-term commitment to a stable goal and a structured program that achieves short- and mid-term efficiency measures in well-defined intermediate steps which are digestible for day-to-day management.

Exhibit 5: Long-term group vision

Full synergy potential leveraged with central hub services and lean national spoke operations





GROUP SYNERGY MEASURES

MEASURE TYPES AND STRUCTURE

The identification of group synergy measures needs to go beyond traditional shared service centers. Oliver Wyman differentiates two major types of operational group synergies to be evaluated for all functions along the telecoms value chain (see Exhibit 6).

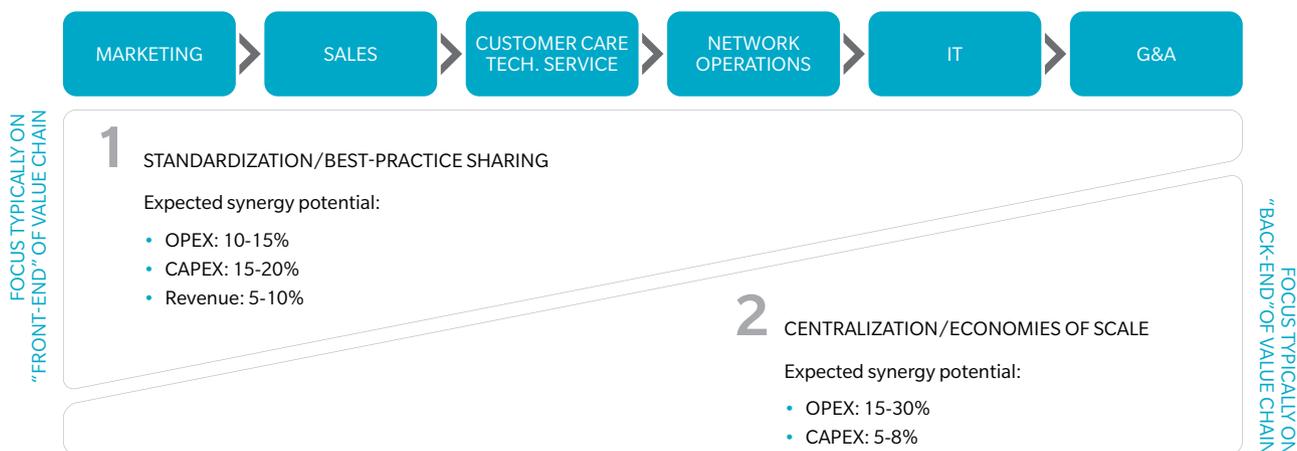
1. STANDARDIZATION AND SHARING BEST PRACTICE

Local improvements based on group internal best practices use insights gained from the most efficient operators in given areas as well as the developments made by operators in more mature markets. These provide efficiency levers, which are often overlooked, without requiring disruptive transformational changes.

Our project experience shows potential savings of 10-15% of addressed OPEX (such as call center management best practice) and 15-20% of addressed CAPEX (for example, standardization of handset portfolio, technical specifications of network elements, and site planning best practice) as well as a 5-10% increase in revenue (for example, through centrally developed customer-value management approaches).

Successful implementation requires certain tools and approaches, like an effective group organization that monitors OpCos' improvements and identifies successes and failures. Topic-focused group "competence centers" build know-how and develop tools (such as eCare) that can be easily used by OpCos. So that OpCos can accept and absorb best practice, it is vital to communicate group standards and to implement them through operational best practices and targets.

Exhibit 6: Two types of efficiencies can be leveraged from the group: standardization (best practices) and centralization (scale)



2. CENTRALIZATION AND ECONOMIES OF SCALE

The centralization and bundling of functions across borders – typically focusing on non-customer-facing “back-end” functions – increases efficiency levels through greater scale and scope.

The effects of this are:

- Leveraging salary arbitrage within the group footprint (for example, with the use of cross-border contact centers)
- Elimination of redundancies in infrastructure, systems and overheads (for example, by having only one central network operations center (NOC) or larger more efficient data-centers)
- The possibility of higher degrees of professionalization and specialization
- Better workload management with increased volumes (for example, through batch payroll processing)

Our project experience shows savings of 15-30% in addressed OPEX (for example, with a central NOC, shared service centers for general and administrative (G&A) functions) as well as 5-8% in addressed CAPEX (for example, through a unified core network).

MEASURE EXAMPLES

Typical examples of successful group synergy measures in both dimensions and across all functions of the telecoms functional chain are shown in Exhibit 7.

These are just some of the long list of potential measures, each of which justifies an individual discussion. We have selected two examples that are generally applicable.

Exhibit 7: Group efficiency measures spans all functions

	MARKETING	SALES	CUSTOMER CARE TECH. SERVICE	NETWORK OPERATIONS	IT	G&A
1 STANDARDIZATION/ BEST-PRACTICE SHARING	Value steering (SAC, SRC optimization)	Channel strategy guidelines	Call-center management best practices	Common network tower sharing approach	Demand management best practices	Standardized G&A processes
	Product standardization	Channel management best-practices	Common eCare platform and competence center	Standard equipment/specifications	Standard hardware and software	Standard reports
	Standardization of handset portfolios	Common online sales platform and competence center	Customer experience competence center	Vendor/outsourcing management best practices		
2 CENTRALIZATION/ ECONOMIES OF SCALE	Central branding activities		Cross-border/international call-centers	Central NW Operations Center (NOC)	Common/shared applications (incl. central develop.)	Global procurement
				Central NW strategy and planning	Central hosting and maintenance (data centers)	HR shared service center
				Shared NW service platforms	Central license management	Finance shared service center



1. eCHANNEL COMPETENCE CENTERS AND SHARING BEST PRACTICE

The increasing potential (and need) to migrate transactions from expensive “personal” channels (such as shops and call centers) to much cheaper online channels (“eChannels”) is, and will remain, a key challenge for efficiency-aware operators in the coming years. This is an issue that operators have typically begun to tackle individually, with self-developed platforms and widely varying approaches to attraction and retention measures.

Generally, an operator’s e-capabilities are dependent in part on the online maturity of the local market (determined, for example, by broadband penetration, common usage of online shopping, and the penetration of electronic banking and use of credit cards). Groups spanning multiple market maturities can typically leverage the know-how, tools

and processes that have been successfully proven by their more advanced operators in order to provide a boost in competence for less mature operators (see Exhibit 8).

Even apart from leveraging elements of more mature markets, investment in platforms, systems integration and the development of methods can be achieved much more efficiently centrally, with a higher one-time spend enabling best-practice platforms that can be cheaply adapted to multiple countries (at a lower overall cost). As constant development in the foreseeable future is a given, this effect will be compounded.

Exhibit 8: Example – eChannel Competence Centers

Learning from more advanced OpCos and geographies

“eMATURITY” CLUSTERS 2013 BY COUNTRY ONLINE PURCHASERS IN PERCENTAGE¹



EXAMPLE OPCO STATUS QUO AND AMBITIONS OPCO



1. Share of individuals with >1 purchase in last 12 months

Source: Eurostat

2. G&A SHARED SERVICE CENTERS

Overhead functions in finance and human resources (HR) are typical targets for centralization and group shared service centers (SSCs). Currently, the most advanced groups are significantly increasing the proportion of centralized activities, reducing their local activities by up to 70% (see Exhibit 9).

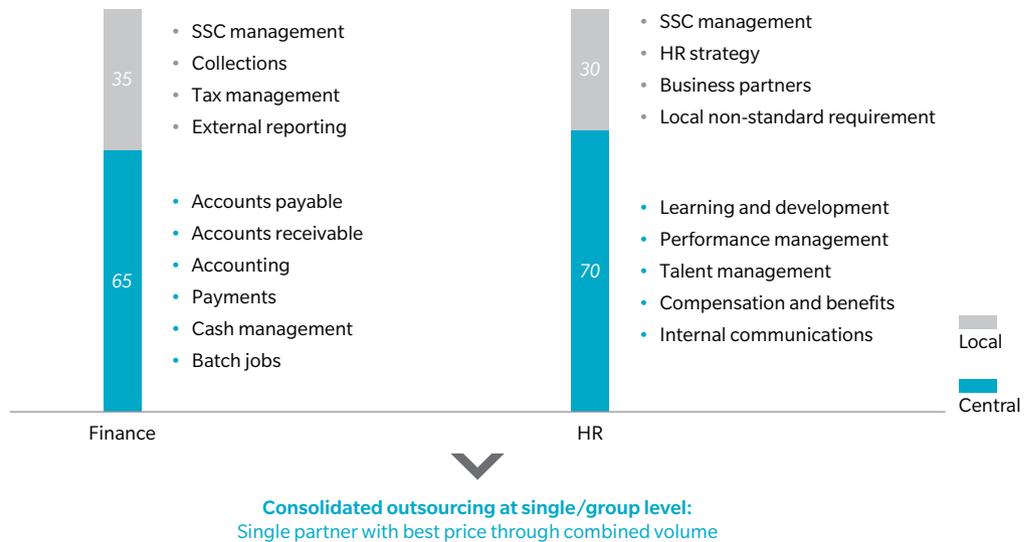
These levels of centralization require a high degree of standardization in processes and reporting. Local activities are limited to

managing the SSC, which can include tracking SLAs as well as specific local requirements (such as taxes and specific labor laws) and addressing local management requirements through small teams.

Significant savings in centralized functions are made possible by internal employees working at lower cost and by concentrating expenditure on one or two unified vendors that offer significantly better prices for bundled volumes.

Exhibit 9: Example – G&A Shared Service Centers

Target of approximately two-thirds of Finance and HR work-volume for central shared-service-centers currently defined by leading groups



Groups need
to review
their potential
for creating
synergy.





POTENTIAL ISSUES AND PITFALLS

Everyday examples show that successfully implementing group synergies is by no means a trivial undertaking. Many attempts are unsuccessful and often backfire, creating additional complexity and bureaucracy instead of increasing efficiency.

Depending on a group's individual situation, there are common pitfalls that must be avoided. A discussion of these follows:

- The level of efficiencies and savings from group synergies targeted must be ambitious, and their achievement must be ensured.
 - Local savings and efficiencies from group activities must be identified and quantified beforehand, and then implemented in parallel to building central functions. Many real-life cases show that this is by no means automatic, leading to large central organizations with significant redundancies to local activities
 - Central services usually increase the delivery model's complexity, and overheads need to be controlled. The efficiencies gained must be great enough to clearly outweigh these disadvantages
- Centralization does not mean larger headquarters (HQ): a group's shared functions should be located in the best region, based on cost and quality considerations rather than proximity to corporate HQ. In addition, new service functions should be staffed by managers who have first-hand experience of local needs as well as an understanding of group-wide requirements.
- A common culture must be enforced to avoid "us and them" dynamics: useful tools to achieve this can include management rotations and distribution of shared services across multiple OpCos.
- The organizational model has to evolve with increased centralization.
 - Clear and uniquely defined responsibilities for delivery and KPIs must be ensured
 - OpCos are no longer responsible for full P&L, more sophisticated KPI target models required (e.g. cost responsibility with individual central functions, revenue responsibility with local front-end teams)
- Radical changes have the potential to significantly disrupt local operations, risking quality, customer satisfaction and finally revenues. A phased migration is required, for example by starting with a selection of pilot OpCos for each function and gradually migrating additional OpCos as problems are solved.
- The costs and time needed for transformation must be realistically quantified and planned. Centralization is not a quick win – it requires a multi-year plan. HR transformation costs (including severance costs, training of new employees, and so on) must be taken into account, in addition to technical investment requirements.

IMPLICATIONS AND OUTLOOK

Groups need to review their potential for creating synergy – most will find large levers to strategically increase their efficiency and reduce their cost base. However, the sustainable realization of this potential is no quick win. In contrast to the small, step-by-step improvements used in traditional cost-cutting exercises, groups can destroy value on a large scale if the subject is approached without a clear vision of the long-term target. The transformations will take many years to be fully realized. The most advanced groups already have a head start. Those that follow must act soon to remain competitive in the years ahead.



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The spotlight
often shines on
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an intuitive and simple
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90% OF AN ICEBERG IS UNDERWATER

FOR BREAKTHROUGH
CUSTOMER EXPERIENCE,
START WITH BACK-END
SIMPLIFICATION

The spotlight often shines on companies that offer an intuitive and simple customer experience. Quite often these stars come from the digital world where one can define the customer experience and supporting back-office processes from a blank sheet of paper. Netflix, Amazon, Uber, to name only a few, have raised the bar and defined consumers' current expectations of experience.



New digital players have set the bar very high as far as customer experience is concerned – communications operators eye their success with envy and dream of becoming the “Uber of telecommunications”

Traditional communications operators and media distributors, encumbered by their legacy product portfolios, processes, systems, and cultures, have a hard time competing with these new players, and eye their success with envy. They know they need to improve their customer experience and simplify their operating model, but often do not know exactly what this means, nor how to do it. Customers naturally wonder “Why can’t you be as easy as they are to interact?”.

The customers may only see the “tip of the iceberg” that is visible to them, with no clue of – and little interest in – the massive infrastructure at work behind the scenes. This reminds one of a beautiful Swiss watch: a consumer sees the beautiful handcrafted face, bezel, and strap and is drawn to the elegant simplicity, but do not see the 1,000 cogs and highly complex interlinked mechanisms turning inside that deliver the flawless performance.

Operators are stuck with a complex legacy back-end – this costs them hundreds of millions of dollars, euros, etc. in terms of inefficiency or customer impact, but they hesitate, or are unable to approach the problem structurally

An operator’s back-end is often the result of many years of multiple M&A integrations, which brought together disparate “spaghetti” systems, incongruent processes, legacy cultures, etc., and of “best effort” scaling to market growth and demand. But complexity is simply no longer sustainable for operators: costs are in the millions of any currency and this complexity is preventing them from serving customers on time and from meeting today’s expectations of quality and service.

Most operators are very aware of this. But they are often anxious about starting a full simplification effort, frightened by the magnitude of the task. The painful and expensive examples of “Big Bang IT transformations gone wrong” are on everyone’s minds. And often it’s very unclear exactly where to start. Should this be initiated as an IT transformation? End-to-end processes streamlining? Product portfolio rationalization? The easy way out has unfortunately often been to postpone the decision and to kick the can down the road.

A delightful experience is
built through the backstory.

Behind a wonderful customer experience, there is always a great backstory. What is the backstory? It's the 1,000 moving parts that make the experience complete.





Operators too often think that better customer experience and simplification can be achieved by focusing mostly on the front-end – by just decreasing the number of products – typically with disappointing results

In many cases we've seen, operators have launched siloed attempts that just scratch the surface, or customer experience programs that ignore the "factory," or the submerged part of the iceberg, and attempt to apply a patch solution on fundamentally flawed processes and systems.

For example many companies start their simplification programs by reducing the scope of their offer portfolio and hoping then to automatically reduce back-end complexity, time and cost, and/or bolt on new sexy solutions for the front-end (launching fancy web sites, digital initiatives, brand and visual systems, marketing messages and materials, etc.).

But now, after years of frustrating attempts at trying to decrease the number of products and customer options without streamlining corresponding processes, business rules and IT systems, operators increasingly understand that this approach is insufficient. There is a growing awareness that "if you want to have an attractive front-end, you need to start working on your back-end".

Simplification is too often misunderstood by operators: this is not about decreasing the richness of the marketing offer – to the contrary, this is about enabling even stronger value propositions

Simplification is often based on a fundamental misunderstanding: simplification is not about decreasing the richness of the marketing offer and compromising on the value proposition to the end-customer: the Henry Ford Model T car, offered "in any color as long as it is black".

On the contrary, simplification is an enabler of the richer and more flexible value propositions that today's technology make possible. Who knows what the killer application or desired product/service bundle will be in 12-24 months? In a world of rising uncertainty, flexibility has become the building block of success. Just think about a "Connected Home" value proposition today versus the basic home phone product of 15 years ago: there is internet access; with different speed and service tiers; a modem, wi-fi router, and/or home gateway, a STB, various displays, DVR capabilities; home security applications; thermostats, speaker systems, sensors, cameras, appliances ... and often a phone too!

The aspiration is not to reduce this richness down to one basic, average offer but rather to deliver a segmented, seemingly bespoke offer to each customer at the best cost for the operator: make it simple, intuitive, high quality, solve customers' hassles during the registration process and provide a wonderful service throughout their tenure.



In the end, the objective of simplification is to make interactions as simple and reliable as possible to empower the customer: the user can configure their own offer by themselves and access the company’s systems via easy-to-use and light front-ends. The back-end provides modular “LEGO-like” options that the customer can use to build and customize their own experience, like many digital leaders already do.

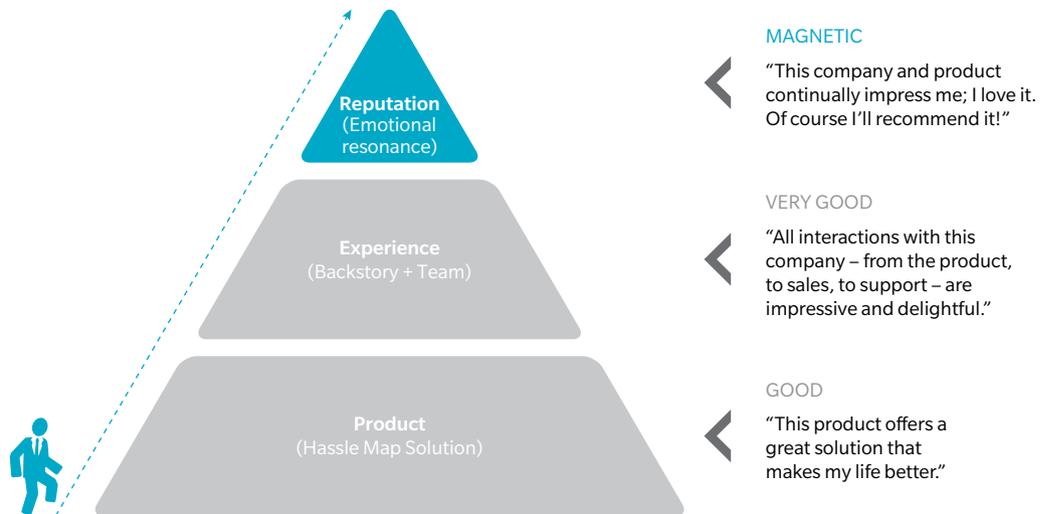
After years of experience with simplification programs, we are convinced that operators need to make a fundamental switch, putting the back-end under the spotlight to start their simplification program there, rather than starting with the “tip of the iceberg”; defining an aspirational front-end which only scratches the surface and is unlikely to be compatible with the legacy back-end.

Real simplification requires the approach to be reversed from conventional wisdom: instead of starting from the front, start from the back

The most inspirational examples are found in other sectors, such as digital, transportation, banks, consumer electronics, and so on. Before promising wonders to customers and hoping to create a magnetic or emotional link with them, best practice companies have worked very hard to build solid delivery capabilities and a strong back-end to ensure delivery on that promise.

Exhibit 1: Below the tip of the iceberg – start working by simplifying the back-end

THE EMOTIONAL SIDE OF MAGNETIC STARTS WITH A “DELIGHTFUL FUNCTIONAL EXPERIENCE” SUPPORTED BY A BACKSTORY, AND HASSLE MAP RESOLUTION





Outside the communications and media distribution sectors, inspiring best practice companies have built very strong back-end capabilities – however, they are better known for the front-end customer experience than for what’s “below the water”

Take Uber, for example. Great promise: Uber moves you, connects you with a driver at the tap of a button, makes it easy and affordable to take care of everyday hassles, allows you to be the Boss. But what happens behind the scenes? A powerful IT system integrating the customer database, allowing permanent geo-localization of clients and drivers, a “seamless transaction” model, flexible pricing models and promotion management including price estimates, proactive fleet management services, driver validation and monitoring, and the list goes on.

The emotional side of magnetism begins with the hassle map solution, backstory and team.

Look at Volkswagen: another great promise of even more choice, rather than a simpler product portfolio. Within each brand one can customize one’s car online – choose the model, the engine, the color, the options; one could configure hundreds of different cars to suit. But in the background, all this is enabled by a transformational modular toolkit strategy, as most components are shared between

vehicles, and across regions (architecture, concepts, components, modules, interfaces, norms, platforms, etc.). Part of this is enabled by the reduction of production line complexity and assembly process (integration of sub-elements, pre-build, assembly units, etc.), as modularity of the design is also facilitating the modularity of the assembly process.

In the postal sector, UPS became a global leader thanks to major back-office innovations. Increased usage of telemetric sensor and barcode technology, better knowledge of business clients and transported products have increased both efficiency and customer satisfaction. Regular sizeable but carefully focused IT investments have guaranteed optimal processing routes and ensured rapid transition in switching hubs.

Last, but certainly not least, Jeff Bezos built Amazon on a simple but compelling customer promise: “A large selection of premium products at non-premium prices, with same day delivery.” This customer promise could only be delivered through robust back-end web services infrastructure coupled with intelligent data mining services and an exceptional logistics system.

Some communications operators and media distributors are also, by nature, very simple, considering both their front-end and back-end. Some of them for example have only two mobile offers with most sales achieved online with very low IT spend. These operators have made this strategic choice upfront, allowing them to launch “greenfield” offers and systems. However, only a few “non-greenfield” telecommunications operators have been successful so far in rationalizing their factories and building great back-ends. We can draw some lessons from these successful cases, as well as the many pitfalls that others have stumbled into. Below we list seven lessons that we feel are relevant for operators who are struggling with the simplification challenge.



THE SEVEN LESSONS LEARNED

1. DEFINE AND ARTICULATE A BUSINESS VISION AROUND A SHORT LIST OF “STRATEGIC BUILDING BLOCKS” THAT WILL IMPACT THE BACK-END’S FUTURE STATE

Nobody can know how the market will evolve, or what new products and services technology will need to enable in two years. Nevertheless, engaging in a simplification transformation without a vision or a target is like crossing the Atlantic Ocean without a compass.

While achieving even 80% of this target is unlikely, we see the attempt as critical to building alignment between the business and the back-end entities on the strategic business activities that will need to be enabled. In our experience, it boils down to not more than 30 building blocks, representing structural elements and functionalities that will be needed to enable future products, multi-channel customer experience, pricing, retention model, etc. To be very concrete, successful operators typically set as strategic building blocks elements such as:

Offer: Flexibility to price the service according to several tiers/dimensions (speed, quality of service, volume consumed, etc.); flexibility to offer converged pricing between fixed and mobile; possibility of offering “trial” solutions to non-customers, bundles with OTT offers, etc.

Customer Model: Ability to handle different types of groups (households, temporary groups, contextual groups, etc.); ability to handle customers who do not have access lines, SIMs, etc.

Customer Experience: Willingness to offer the same layout through all channels, or a

differentiated one for certain channels; a similar front-end for vendors and customers, or different one; flexibility to handle a “basket of goods” seamlessly between channels, or not.

Retention Strategy: Necessity to manage individual loyalty points, in real time, on all channels; or also manage loyalty schemes for a group of services and contracts; possibility of focusing on end-customers only, or also reward partners?

These building blocks should then be translated into a functional, application and technical target architecture, and a roadmap defined to get to this target.

2. DECOUPLE THE “MARKETING VIEW” FROM THE “FACTORY VIEW” AND DEVELOP MODULAR PRODUCT STRUCTURES AND PLATFORM FUNCTIONALITIES

At most operators, additions of layers of legacy products, policies, and eligibility rules have led to an explosion of “Frankenstein offers”, each tariff or specific condition granted to a customer becomes a formal product in itself, with its own process, associated service, etc.

Best practice operators have first organized their back-end with modular product structures and central product catalogs, focusing on reusing basic building blocks to assemble offers. This dream of “product catalogs” is of course not new, and many IT vendors may have over-promised on this, with off-the-shelf solutions that were not clear-cut catalogs of basic components, but concepts mixing different components and functions together. Adopting modular product catalogs is not about deploying an off-the-shelf software solution, but much more about defining carefully what a product is, and decoupling it from other back- or front-end functionalities.



Having completed this critical first step, defining clearly what a product is, successful operators can then align their organizations to better reflect the separation between the marketing layer and the back-end layer.

For example, for one US converged operator, back-end teams have been organized around product and platform teams: products being the final element the customer will experience, and platforms being the functionalities that are “picked up” and assembled to make products. For example, a wireless IP STB is a product; and DVR, or VOD, or Metadata are platforms that are consumed by products.

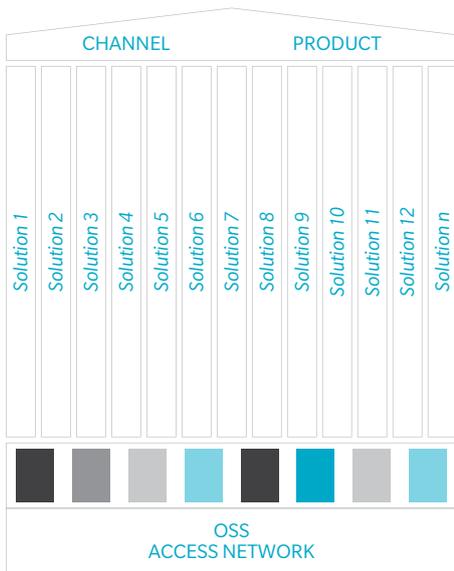
3. DEFINE CLEARLY WHAT A CUSTOMER IS, AND WHAT THE CLIENT MODEL IS

In a context where customers are increasingly buying multiple services, the necessity of considering the customer as a whole, taking into account their different contexts (household, family, group, etc.), is ever more important. But this contextual awareness is far from simple, given that inherited models are very different between contexts (e.g. home address for fixed line, addressing one household, but SIM card for the mobile perhaps with a different billing address, addressing an individual).

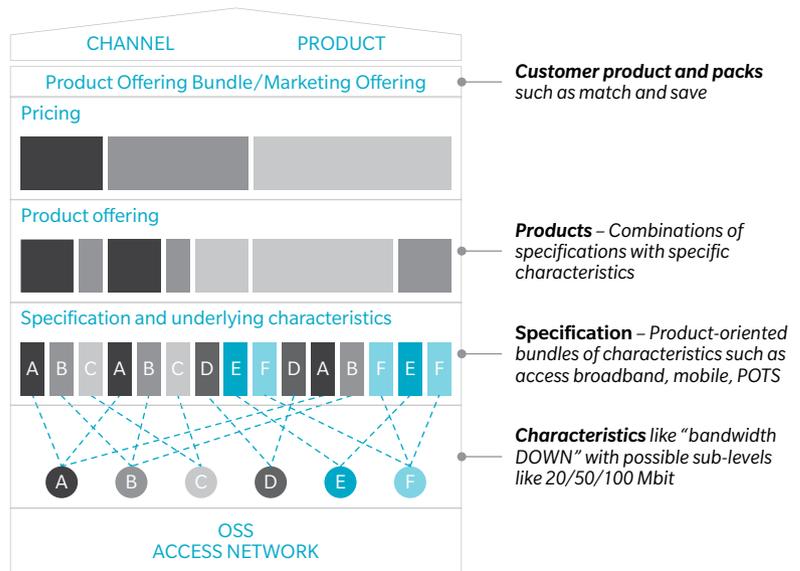
Exhibit 2: Switch to modular product structures

Modularize the product portfolio

STARTING POINT FOR PRODUCT SIMPLIFICATION AND MODULARIZATION



“PRODUCT HOUSE” MODULARIZATION OF PRODUCTS



- ❗ Today: “every tariff is an end-to-end product”
- Limited re-use of components
- High complexity/time-to-market!

- ✅ Re-use of core components as a key topic
- Modularization of product offering
- Reduction of complexity through unified specifications
- Every tariff is an “offering” or the price adjustment of an “offering”

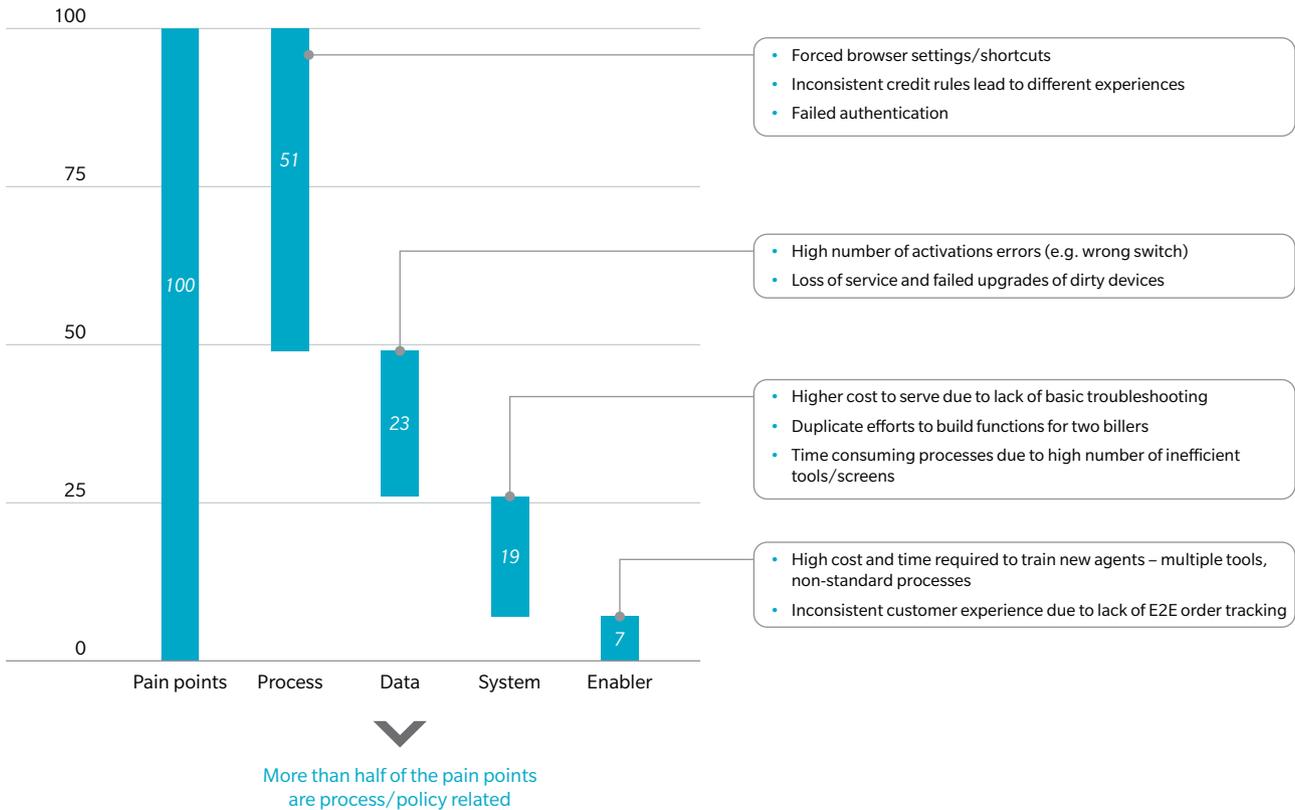
Notwithstanding the product structure, a clean customer model is a must, clearly formalizing interactions between parties (individual line, user, payer, operator, etc.) and roles of the parties. Mapping a household to a customer model requires more than just a few data fields. It requires very clear rules regarding the rights of each party, which can become very complex in a world of multiple usages in multiple places where some usage is shared between parties and others must remain personal and individual. This is hugely complex and sensitive, requiring careful modelling to allow flexibility (associating lines into and out of families, parent approval for kid’s data package extension requests, etc.).

4. PROCESSES STREAMLINING AND BUSINESS RULES ALIGNMENT TO BE DONE IN PARALLEL WITH IT ENABLEMENT

A major source of complexity is usually the explosion in the number of business rules (for example, the way the offer is presented to customers on various channels), which differ across products, regions, channels, customer segments, etc. Before even considering potential IT projects, unification of business rules and streamlining of major processes is essential.

Exhibit 3: Identify pain points and root causes and make the distinction between system, process, and data root causes
System issues are finally “only” 20% of the problem

PAIN POINT VOLUME BREAK DOWN
IN PERCENTAGE, BY FOCUS AREA (EXAMPLES ONLY)





For example, contrary to initial intuition for one North American Cable MSO, 70% of dysfunction root causes were due to process and business rules issues and only 30% to IT system issues. These issues include: lack of well-defined and communicated customer eligibility check process; redundancies in activation sub-steps; inconsistent access and management of offers across channels; inconsistent order policies across channels. Also, process inefficiency was often attributable to poor compliance by employees and insufficient; and reinvesting in an expensive and time-consuming Next Generation IT system without having first addressed these policy and process issues would have been a mistake.

(including work force management), building automated end-to-end Sales to Activation tracking, improving exception handling, establishing active customer communication, and so on. This simplification of processes was done in parallel with the product portfolio modularization and IT architecture simplification.

Working in parallel on the data model and platforms rationalization is of course a must. In the end, to achieve this rationalization, legacy operators have no choice but to revamp most of their IT systems. This rationalization cannot succeed without tightly linked parallel work on business rules and process simplification and, in our experience, is doomed to fail if not well sequenced in a few clear steps.

This is, for example, what the European operator realized after an initial painful false start, building a completely new IT system via a “Big Bang” approach. Two years into this initial IT transformation all specifications were already obsolete, delivery was only at 15% of target, and more than 50% of the budget had already been spent – hundreds of millions of euros without creating tangible value. The key to success for restarting the IT renewal for this operator was to sequence the project into five sub-projects (Client Accounting, Sales & Activation, Client Base, Product Offering and Billing, ending with the front-end). Each of these sub-projects was to last not more than 18 months, with detailed design done for each sub-project (e.g. internal development or an off-the-shelf solution), with clear fallback plans for each sub-project in case of deviation from initial plans, and of course, carefully anticipating the required customer migrations that need to be managed to switch from the old IT system to the new one.

Verification of business rules and streamlining of major processes is essential.

The same situation was evident in one European converged telco operator’s Sales to Activation process: after a detailed root causes analysis, it became clear that working on streamlining key overarching processes would solve a good proportion of issues: standardizing the selling process, optimizing feasibility checks in early process stages, improving scheduling and coordination



5. KILL NON-VALUE-ADDED PRODUCTS AND CAREFULLY SEQUENCE THE MIGRATION TO THE NEW SYSTEM

Product portfolio rationalization is a necessary step to be able to switch to a new IT system. Trying to move legacy portfolio complexity onto a new system always leads to a breakdown in deploying the new IT.

Product portfolio rationalization success stories exist, then, when operators carry out back-end simplification in parallel. And the reverse is true: back-end simplification exists when operators rationalize their portfolio in parallel.

For example, to enable its switch to a new IT system, one European telecommunications operator estimated the potential need to rationalize its number of products by 50%. Having reached this target in just two years, without any negative impact in terms of revenue or churn, a more in-depth analysis has just shown additional potential for further reduction.

Of course, the risk on ARPU or churn needs to be carefully managed. Proposing migration to a new product to a customer raises the spectre of non-acceptance. Poorly defined migration plans can severely hit the top line by transferring high ARPU customers to lower ARPU new plans. Smart migration plans need to be defined: for example, fine-tuning engagement periods and locking customers in for an extended time and lower-churn products (e.g. triple or quadruple play products).

6. PUT IN PLACE A CEO OR CFO-LED GOVERNANCE STRUCTURE SPECIFIC TO THE TRANSFORMATION EFFORT, AND ALLOW IT TO ADAPT TO BUSINESS CHANGES

Simplification programs impact virtually all functions of the organization and generate disruption. This requires specific attention to governance, involving the main decision makers impacted. Most importantly, not having CEO or CFO ownership risks diluting the message and mislabeling this as a marketing or PR effort with no fundamental operating model change.

Governance is especially crucial to manage potential course corrections to the target during the program. To keep the plan very close to market realities, a key role of the governance body is to manage gaps with the initial target in order to bring the required flexibility to the plan, while not compromising the structural decisions made at the outset.

One very important role of this governance is to sequence the program into manageable sub-projects; our experience suggests that each sub-project should not extend more than 18 months. Another key decision is to sequence the back-end programs correctly (e.g. order to activation, product catalogue, client model) versus the front-end ones (e.g. unified sales portal, customer care multi-channel experience). Decoupling the two and putting in place clean APIs between front-end and back-end is important to respect the specific pace of each, and keep a good level of autonomy for these two parts of the systems.



7. THE BENEFITS ARE ENORMOUS WHEN YOU GET IT RIGHT

When it comes to impact, let's look at three real-world examples which demonstrate how transformational the potential can be, looking explicitly also out-of-sector for inspiration.

First example: A German automotive manufacturer was able to reduce its purchasing costs by 20% while enabling a significantly higher level of customer choice and personalization (which was core to their aspirational front-end value proposition), thanks to transverse platform modularization and larger volume produced with multi-model standardized components.

Second example: A US retail bank & insurer fully rationalized their back-end, primarily to improve front-end customer experience. Quality defects went down by 80% and employees' productivity went up by 40%.

These results were achieved thanks to unified processes across all business lines, breaking silos and leveraging scale; re-engineering processes; implementing standard ways of doing things (training, user manuals, etc.); and tracking people performance on a daily basis. And these results were achieved with no incremental spend on IT.

Third example: A European telecommunications operator optimized and simplified its operating model. Driven by the desire for end-to-end optimization of customer-facing processes for sales & service, they designed and implemented a balanced transformation between business simplification and necessary IT transformation. The results have been convincing as roughly 20% of operational cost was taken out of the operations at the same time as they achieved a remarkable increase in customer satisfaction through improved customer experience.

CONCLUSION

The time has come for communications operators and media distributors to stop postponing structural simplification, and focus on the back-end to enable the front-end. Doing it right is possible, and the stakes are enormous. Ultimately, there is no other route to competing against new digital players who are rapidly setting (and constantly resetting!) the bar in terms of customer experience.



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Holding on
to customers is
getting tougher.
But a few companies
have developed
innovative ways of
dealing with “churn”
in a much more
efficient manner.



RETAINING CUSTOMERS

A CROSS-COMPANY SPORT

Holding on to customers is getting tougher. Most companies in mass consumer subscription industries, such as telecoms, broadband or pay TV, are seeing significant growth in their retention investments. This can involve spending well above five points of EBITDA each year just to be able to stand still. But a few of them have developed innovative ways of dealing with “churn” in a much more efficient manner. Some of these companies have been able to achieve 10% lower churn rates than their peers ... with up to 20% less invested in retention!



As many markets begin to saturate, customer acquisition teams have been developing and launching new offers or more generous promotions to convince the last laggards to adopt their services, and to lure competitors' customers. While the war to recruit each other's customers rages on, historic "brand loyalist" or apathetic customers have been educating themselves and shopping around to find the best deal on the market. Others will try to negotiate good discounts from their current provider.

As a result, many operators are forced to invest ever-increasing amounts in subscriber retention for customers whose loyalty continues to fade. In the process, they also happen to educate them on how to negotiate a better deal! In short: Retaining customers, and their value, is not going to get any easier.

Of course, retention capabilities are high on the agenda in most, if not all, of the companies in these sectors. Most of them will have developed churn propensity models, implemented industrial churn prevention campaigns and built large dedicated retention teams. But they also continue a series of behaviors: They focus on attracting customers regardless of their intrinsic loyalty characteristics; they create "incentives to churn" with acquisition offers that are more generous than renewal offers; and they measure retention effectiveness in volume saves.

By contrast, leading operators manage the value of churn throughout the customer life cycle: They focus on attracting the best customers, provide incentives for customers to become (or stay) loyal, earnestly address the most important "churn triggers" and use their wealth of customer data to optimize the value of their retention and win-back efforts.

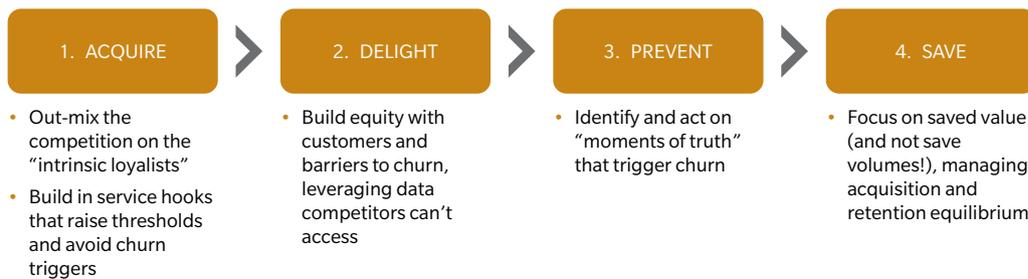
Ultimately, they achieve a much more efficient and effective use of their retention spending, which in turn increases customer value and enables more investment in the broader value proposition. In other words, a cycle of value creation is born.

Oliver Wyman has worked with operators across a broad range of mass consumer subscription industries, including communications, media and tech players. In this paper, we will share our perspective on effective churn value-management options currently in practice and in particular how these are being applied in telecom, broadband and pay TV operators to create this value engine.

PREVENTING CHURN IT STARTS AT ACQUISITION, AND CONTINUES THROUGHOUT THE CUSTOMER LIFETIME

In many companies, churn is mostly seen as an issue for the "save team," whose job is to perform magic to convince any customers to stay. Other companies recognize that churn can be addressed before disconnection requests, and they deploy proactive anti-churn campaigns, often relying on churn propensity models. But very few companies go as far as addressing churn by leveraging all possible levers (acquire, delight, prevent and save) throughout the customer life cycle, as illustrated below. In our experience, these are the companies that perform best in terms of churn-management efficiency and effectiveness. Over the following pages, we will share our observations on how these companies operate on each of the levers.

Exhibit 1: The four stages of churn management



1. ACQUIRE

Every marketer knows: Not all customers are the same. But how many companies account for customers’ differences in terms of intrinsic loyalty when building their acquisition strategy? Too few, unfortunately.

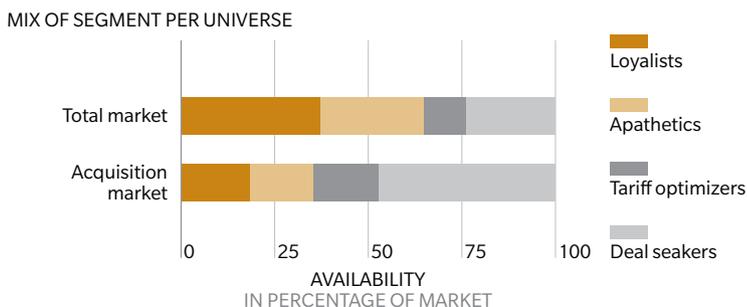
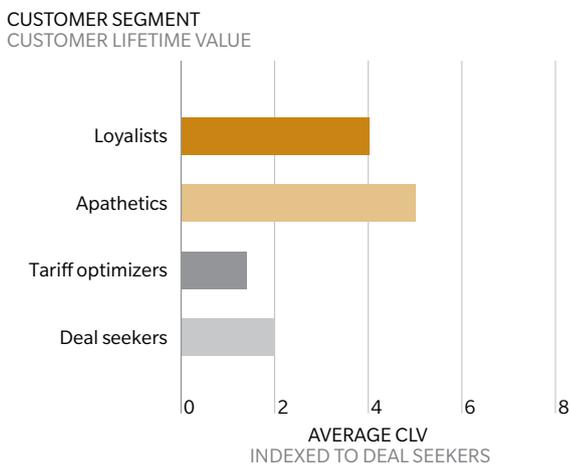
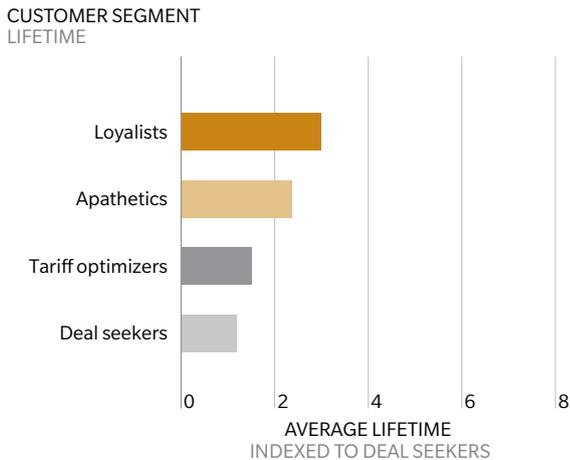
In working with many operators across the globe, the same pattern came up again and again: Some customers, referred to here as “deal seekers” or “tariff optimizers,” plan from the beginning of their relationship with their provider to shop around at some point and to negotiate hard or leave. Some other segments, such as “brand loyalists” or “apathetic,” will only leave if they can pay an outrageously lower price with competition later on, or if they start to have serious service issues. Their structural, intrinsic mindset differences seriously impact segments’ expected lifetimes, profitability, and availability on the market. The churn rate for deal seekers is typically twice that of the apathetic segment, with monthly profitability close to half (since deal seekers know how to take advantage of the best promotions). We observed a range of one to four or five in lifetime value across these loyalty-based segments. The irony is that while representing a minority of the overall market, deal seekers and tariff optimizers constitute a majority of acquisition potentials, being recycled much faster on

the market (see Exhibit 2). Therefore, many acquisition strategies are designed to attract the most volatile population, while educating loyal customers to become deal seekers.

Telecom, broadband and pay TV operators all face pressure to increase their number of subscribers. Acquiring fewer, but better-quality customers is almost never an enterprise value-maximizing strategy. The challenge, therefore, is to alter the mix of acquisitions, not the volume acquired, and to create “hooks” in the value proposition that add barriers to churn.

To do so, the best proposition design teams not only work very hard to understand how different elements of the offer attract different customer segments (e.g., loyalists vs. deal seekers), but also how the offer might trigger or mitigate eventual churn. For example, they measure how deep, immediate short-term promotions disproportionately attract deal seekers, while price-fairness guarantees and increasing benefits over time are more appealing to loyalists. They also measure how creating hassles to churn (for example, providing free and easy-to-use access to cloud storage for their content, or simply adding a step to the disconnection process, such as having to return a box to a postal address in certain packaging) increase customers’ loyalty without impacting brand equity.

Exhibit 2: Acquisition strategy: the “deal seekers” curse



They then use these insights to design the best proposition in line with the company’s gross add targets, but one that also out-mixes their competitors when it comes to intrinsic loyalists and forces deal seekers to be less volatile through their “loyalty hooks.” This way, they have fewer and fewer customers to save and need fewer expensive acquisitions to sustain growth.

2. DELIGHT

How often do companies contact their customers for something other than a service announcement, or to sell them something? In our experience, very rarely! This is one of the reasons fewer and fewer direct marketing campaigns have a measurable, positive impact, and why the percentage of customers opting for the ‘Do not solicit’ lists is increasing to alarming levels. Among the base management diagnostics we performed, we found advanced operators who had up to 80% of campaigns with negative or no ROI (when applying the right measurement lens) and had seen the rate of DNS clients increase to 50% on the “cheap channels” like emails and texts.

Best-in-class companies understood that building a relationship with customers is not only about service announcements and transactions, but also “surprise and delight” gifts that strengthen the relationship.

In low marginal cost businesses, like telecoms, broadband and pay TV, there are frequent opportunities to drive loyalty at low actual cost through proposition upgrades. Very few customers subscribe to all of the operator’s products and services, and almost none of the remaining ones will ever subscribe to the products they do not have. To address this, best-in-class operators have developed programs to proactively propose private offers to their existing customers that increase

their customers’ loyalty, sometimes enable further product/usage adoption and largely compensate for the opportunity losses of potential self-initiated upgrades.

3. PREVENT

Even with the most loyal customers, operators can sometimes fall short on the experience delivered. Whether this means billing errors, bill shock, service interruption, drops in service quality or price competitiveness, many elements can dramatically increase an intrinsically loyal customer’s propensity to churn: This is what we call the “accident-triggered churn.” More structural issues, such as when a customer

resides in a zone where competitors have a better product, or where the operator’s service coverage is just not great, are obviously also a large part of the churn (if not the majority). This is what we call the “structural-triggered churn.” The challenge for operators is to sort out these elements to identify how each factor truly impacts churn and then build corresponding proactive churn campaigns.

Most companies rely on a “one size fits all” churn propensity model that ends up being a black box for the marketer and only identifies the most fragile customers. These models typically combine “triggers,” “structural causes,” and other customer characteristics, but in most cases, are not used to inform

Exhibit 3: “Surprise and delight”: improving loyalty at little cost

	ADDRESS HIGH CHURN RISK AT END OF CONTRACT	MANAGE DATA ADOPTION AND CHURN PREVENTION VOICE-CENTRIC CUSTOMERS																										
Example target	<ul style="list-style-type: none"> Hanna is using 2 GB of data each month (on a 3 GB plan) She is 22 months into her contract and predicted to be a high risk for churn and have low propensity to migrate to higher plan 	<ul style="list-style-type: none"> Bill is a voice-centric customer Despite owning a data-capable device, he does not use any data Scoring models show Bill is unlikely to use data anytime soon and/or get a smartphone 																										
Offer	<ul style="list-style-type: none"> Automatically put Hanna on the 5 GB data plan for the price of her current 3 GB “Your business is valued – starting today, we will give you an extra 2 GB each month for free. It’s on us, enjoy!” 	<ul style="list-style-type: none"> Add 100 MB of free data usage each month to Bill’s account Make Bill eligible for smartphone upgrade at half-price 																										
Rationale	<ul style="list-style-type: none"> Create price advantage with other providers when price shopping Perceived value of €20 is far greater than actual cost of extra 5 GB, especially given data usage profile 	<ul style="list-style-type: none"> Stimulate data adoption faster than would otherwise happen, and benefit from churn reduction Once stimulated, go back to Bill with deal on upsales to regular data packages 																										
Benefits	<ul style="list-style-type: none"> Customer’s perceived benefit: €20 (rate card price of extra 2 GB) 	<ul style="list-style-type: none"> Customer’s perceived benefits: €50 credit, €5-10 of data/month 																										
Actual economics EBITDA in € ILLUSTRATIVE	<table border="1"> <caption>Actual Economics - Address High Churn Risk</caption> <thead> <tr> <th>Category</th> <th>Value (€)</th> </tr> </thead> <tbody> <tr> <td>Current</td> <td>35</td> </tr> <tr> <td>Cost of additional usage</td> <td>-2</td> </tr> <tr> <td>Reprice of future takers</td> <td>-2</td> </tr> <tr> <td>Lifetime extension</td> <td>8-17</td> </tr> <tr> <td>New</td> <td>39-48</td> </tr> </tbody> </table>	Category	Value (€)	Current	35	Cost of additional usage	-2	Reprice of future takers	-2	Lifetime extension	8-17	New	39-48	<table border="1"> <caption>Actual Economics - Manage Data Adoption</caption> <thead> <tr> <th>Category</th> <th>Value (€)</th> </tr> </thead> <tbody> <tr> <td>Current</td> <td>20.0</td> </tr> <tr> <td>Cost of 100 MB allowance</td> <td>-0.5</td> </tr> <tr> <td>€50 offer toward smartphone</td> <td>-2.0</td> </tr> <tr> <td>Lifetime extension</td> <td>4-10</td> </tr> <tr> <td>Future data upside</td> <td>TBD</td> </tr> <tr> <td>New</td> <td>21.5-27.5+</td> </tr> </tbody> </table>	Category	Value (€)	Current	20.0	Cost of 100 MB allowance	-0.5	€50 offer toward smartphone	-2.0	Lifetime extension	4-10	Future data upside	TBD	New	21.5-27.5+
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New	21.5-27.5+																											

marketers about what generated the high score. Because the time horizon on the models is fixed, they also tend to miss triggers that only generate a spike for a short duration.

Therefore, many anti-churn campaigns fail to generate positive returns on investment. Because they are designed to fight generic high-churn risk, these campaigns tend to take the form of general discounts or investments. In these situations, the false-positive phenomenon within the target group largely counterbalances the churn benefits.

Best-in-class companies, on the other hand, have developed a set of different analytics to better, more proactively tackle the churn issue.

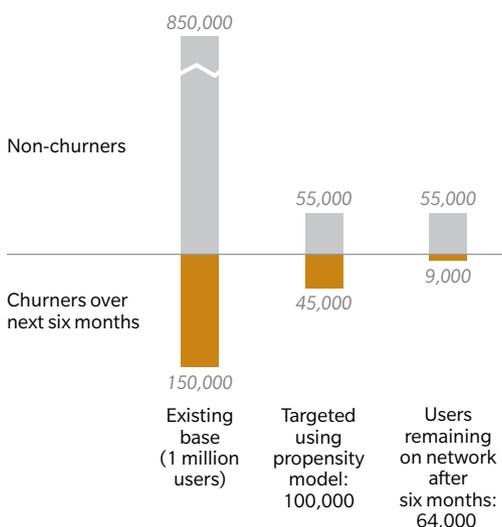
Micro-signal models: These models aim to identify specific customer signals that could

indicate his or her consideration to churn, but that are only valid for a very short period of time. This could be a review of the terms and conditions of the contract, multiple calls to call centers, a sudden change in usage or a variety of other actions. These models are used in conjunction with the following models to start specific prevention campaigns among customers.

Churn triggers models: These models are designed to identify the root causes of why customers become more likely to churn, regardless of their intrinsic loyalty. They typically capture customers’ price positioning, their network and/or service experience (compared with competition potential), and other metrics. These methods are precise enough that marketers can use them in specific campaigns.

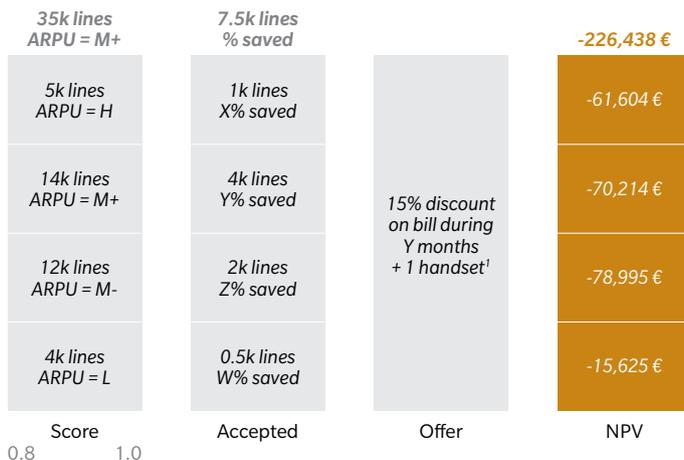
Exhibit 4: Proactive anti-churn: when propensity models are not enough

THE FALSE POSITIVE PHENOMENON...



For 9,000 saves (meaning a save rate of 20% on potential churners), the action had to touch 100,000 customers!

...AND ITS IMPACTS!
EXAMPLE OF VALUE-REDUCING PROACTIVE RETENTION CAMPAIGNS AT A CONVERGENT OPERATOR



In this example, taken from a project delivered for a European converged operator, the quantity of real churners saved was insufficient to compensate for the amount of “false positives” – even among clients scoring at the highest level of churn propensity (0.8-1.0 range).

1. Proactive retention actions did not generate value in the “most likely to churn” and higher-value customer clusters

Exhibit 5: Agile churn: do not forget signals and triggers

CHURN SIGNALS			CHURN TRIGGERS		
	Description	Uplift ¹		Description	Uplift ¹
Handset unlocking	Inquiry about the possibility of unlocking their device	x13.9	Unresolved incident (pending action)	One incident followed by a complaint call for no action taken	x5.7
End of commitment	Inquiry about status of commitment period	x13.2	Serious service incident	Dropped calls percentage reaching 5% for more than one month	x4.0
Competitors' telesales incoming calls	Received calls from competitors' telesales phone numbers at least twice in the last three months	x3.0	Complaint	Two or more complaints over the last 90 days related to: invoice, administration, orders, handset, etc.	x3.1

1. Churn increase for unbound customers

When the problem is structural (for example, when a mobile operator has a customer in a poorly covered area, and the issue has become too much for the customer to accept), specific campaigns, such as offering micro-cells to improve coverage, can be very effective. Alternatively, when the reason for churn is an unfavorable “value of money” position against competition, value proposition adjustments, such as free usage, perhaps coupled with slight discounts, work very well. Only in extreme cases do proactive price adjustments generate value, though! When the problem is accidental (for example, in cases of service issues or clogged call centers that keep customers waiting), marketers can test and identify whether the best solution is to ignore the issue, attack the issue head-on and apologize, or just double down on the “delight” aspect.

In all cases, individual customer data are critical for assessing the issue’s real impact on churn propensity. This requires effectively differentiating the delta due to that issue from the absolute level of churn propensity, driven by, for example, a deal seekers’ lack of loyalty.

In addition, each action needs to be analytically sound to avoid negative returns on investment that stem from false positives as well as from potential “wake-up effects” (in cases where the best strategy is to acknowledge the problem in one way or the other). Only extensive test-

and-learn cycles will end up with a portfolio of value-positive, anti-churn campaigns.

It is worth noting, though, that within the entire anti-churn arsenal, these prevention campaigns typically matter less than the “delight” aspect: Our experience with many best-in-class operators indicates that it is really difficult to counteract the false positives and wake-up effects.

4. SAVE

Even if a lot can be achieved with “loyalty minded” acquisition strategies, and “delight” and “prevent” churn operations, some customers will always reach the disconnection-request step: This presents the ultimate chance to retain them.

Most operators have therefore built retention-specialist call centers (often denominated as save desks), with specific “save offers” only available to the customers who reach this final stage of the relationship. Their agents are trained to understand churn reasons and to convince the customers to stay, often incentivized by their save rate. The success of these strategies has, however, in part been responsible for teaching customers to “bluff” and has resulted in operators happy to give away value and call it a “win.”

One of the extremes of that situation has been highlighted in an experiment that was conducted in one of the most effective retention call centers (with over 90% save rates on churn request). For a sample of disconnect requests, retention agents were directed to only thank the customers for their past loyalty and apologize for not being able to provide a counter-proposition. Among this sample of customers, who claimed to be willing to churn, the operator measured a “save rate” of 75%, compared with the 90% achieved by normal operations. In other words, 75% of callers were either bluffers looking for a better deal, “complainers” that agents classified as “saved churners” to get their commission, or customers who just needed some attention to calm down!

That’s why leading operators have developed detailed insights about customers’ individual “bluff propensity,” about different ways of negotiating with customers and about better incentives for their agents. Through rigorous test-and-learn processes, they have gained a deep understanding of the true value at stake (measured as the value of the customer multiplied by the actual probability that he or she would churn without a counter offer) and of the value of the different counter offers. In some cases, agents are then encouraged to “only acknowledge” the issue, while others are directed to propose a “more for same” offer (in fact improving the deal, at little cost for the operator) and, only in extreme cases, discounts.

These insights are brought together into sophisticated decision-support tools that instantly assess an individual customer and recommend a maximum possible giveaway offer.

Leading operators combine the science of the decision-support tools with the experience and intuition of their agents, for example by enabling and incentivizing agents to make saves below the ceiling giveaway offer. They also fine-tune their incentive schemes to make sure that agents not only stay below the ceiling giveaway, but are also encouraged to offer the optimal giveaway between a need-to-save and need-to-maintain margin.

Managing customer churn is becoming more difficult and more expensive as telecom, broadband and pay TV markets saturate and operators’ gross adds increasingly come from switchers. Leading operators are developing more sophisticated capabilities, adapted from cross-industry experiences that create a virtuous “value engine” cycle of less churn volume and lower subscriber retention costs. These approaches enable acquisition teams to invest more in propositions, push deeper into sales channels and ultimately win the increasingly competitive race for net adds.

Exhibit 6: Reactive retention: Be more generous, but not with discounts!

	EXISTING PACKAGE	OPTION 1: SAME FOR LESS	OPTION 2: MORE FOR SAME
Package	Premium	Premium	Premium+
Rack rate	€60	€60	€80
ARPU	€60	€55	€60
Cost	€5	€5	€7
Margin	€55	€50	€53
		∇	∇
Discount vs. rack rate		€5	€20
Margin giveaway		€5	€2

CONCLUSION

Over the past few pages, we have introduced some of the challenges of managing churn at each stage of the life cycle and some of the approaches that leading operators have developed to address these challenges. Those companies that have not developed their churn-management capabilities risk reversing the value engine. In this scenario, churn volumes increase despite increasing subscriber-retention costs, resulting in lower lifetime values and less cash to invest in the proposition and inflow.

In our experience, moving “upstream” can offer huge opportunities. This involves shifting from an “end of life” focus to managing activity across the four life stages described earlier and improving the specific capabilities within each stage. Not all operators need to be best-in-class across all capabilities – local market dynamics and operator specifics will determine which ones have the biggest impact. To do so, operators must assess their own situation to determine which capabilities to move to what levels.

Finally, “best-in-class” is a relative, not an absolute position to obtain – leading operators continue to develop and improve their capabilities. Because “best” is always being redefined, sustaining a positive value engine requires an operator mindset of continually assessing and improving capabilities.



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Throughout
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SUB-SAHARAN MARKETS OUTLOOK

SURVIVAL OF THE FITTEST

Throughout the first decade of the new millennium, sub-Saharan African telecommunications markets showed accelerating growth. But around 2010, an inflection point was reached and the competitive climate has been worsening ever since. The players who are to emerge as winners will have to excel at the basics and achieve scale and leadership – fast. As for those companies not up to the task – they should consider their exit strategy, sooner rather than later.



RECENT CONTEXT HOW DID WE GET HERE?

Telecom markets across the sub-Saharan region have posted staggering, accelerating growth rates, in both subscribers and revenue, ever since the early 2000s. The roughly 50 countries located fully or partially south of the Sahara desert have gone from virtually no mobile (and limited fixed-line) infrastructure and penetration (around 10% at the beginning of 2000) to an average mobile penetration rate above 60% of population, with some countries well above 100%. In 2013, total market revenue rang in at roughly US\$ 40 BN. Overall, these markets have been living a story of growth and opportunity. Vast and populous or small and sparsely inhabited: All countries in the region have exhibited fast subscriber and revenue expansion with average annual growth rates hovering above the 20% mark.

One of the most important factors in this growth, affordability of mobile services, is best measured as the ratio between the average revenue per user (ARPU) and GDP per capita. Beyond population growth, the addressable market grew driven by the reduction in the rate of population living below the poverty line. This rate decreased from 56% to 48% between 2002 and 2010.

The subcontinent's tremendous social and economic potential has attracted more than just network-deployment capital. Talent and innovation from both homegrown players and foreign telecom operators have begun to flow into the region, which is home to almost one billion people, a third of whom are under 15 years old. The World Bank estimates that net foreign direct investment into the region grew from a total of US\$ 6.3 BN in 2000 to US\$ 35 BN in 2012. Over the past five years, roughly 20% of that sum was related to greenfield ICT projects.

This fast and not always orderly expansion has left behind a complex competitive landscape with some clear winners and losers. An average of 3.42 operators serve each of the sub-Saharan markets, while 17 of the 45 countries support four or more infrastructure-based mobile operators. Countries with a closed telecom market and enormous promise, such as Ethiopia, coexist with highly developed and competitive ones like South Africa.

African markets have become "winner takes all" arenas with very high subscriber and valueshare concentrations in the top two players of each market.

The handful of major regional players competing for that coveted market-leadership position know that leadership brings with it ARPU premiums between 20 and 40 points over their third and fourth competitors' levels. MTN, Vodacom/Vodafone, Airtel, Milicom and Orange face off in multiple configurations and compete with local incumbents or independent players of various sizes. They have traditionally used scale and on-net aggressive pricing to achieve a first-mover advantage in markets that do not make it easy to switch between operators. By leveraging financial strength, they can also speed up and intensify their network deployment strategies.

Since 2010, however, subscriber growth and profitability have started to falter in the region's major markets. This "middle growth" regime is forcing operators to adjust the scope and focus of their business models.



WORSENING ECONOMICS SURVIVAL OF THE FITTEST

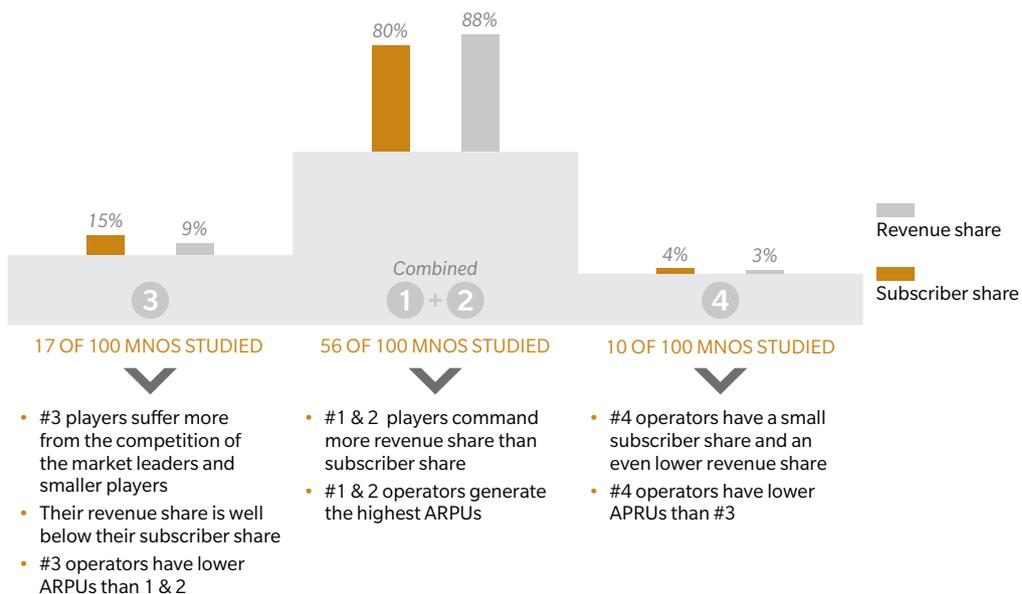
Operating in sub-Saharan markets has never been easy. The lack of infrastructure has made deployment and operations twice as challenging. Economic and political instability forces operators to raise their expected rate of returns and scrutinize entry decisions carefully. In some cases, the volatile climate has even prevented them from repatriating profits. Several other conditions compound this challenge: On average, running a mobile tower here costs two to three times what it would in developed markets. Meanwhile, marketing and operational talent is harder to attract and retain, and currency volatility and financial risk typically run significantly higher than in developed countries. Then one must also factor in the chance that war

may break out, resulting in political and regulatory change.

The booming commodities exports and cheap money driving investment in emerging markets during the past decade has boosted economies across the continent, taking millions of people out of poverty and turning them into potential consumers of mobile services. The high concentration of urban populations and income in relatively small geographic areas allowed for fast market entry with a few hundred base stations, generally deployed in the most concentrated urban centers with disproportionate wealth ratios.

Because until recently most markets focused almost exclusively on voice-related services, operators could fill their networks with simple profitable services. These offered high yield on network resources compounded by whatever

Exhibit 1: Top-tier composition of sub-Saharan telecom markets 2012, 100 MNOs studied across 30 African countries



Source: Informa, Oliver Wyman analysis



88%

of market value belong to the first- and second largest operators across the 30 most-relevant markets in the region.

extra minutes were sold over the respective capacity. Not so with data applications. Subscribers per base station, a metric that links addressable market to the CAPEX required to serve it, is two to three times higher here than in more-developed, “quality sensitive” markets. For this region, normal figures might be in the 7,000 to 9,000 range, which reflects the way sub-Saharan operators have recently attempted to “fill up” base stations with flat-fee voice services and “abundance” offers. More-developed market metrics hover around 3,500 subscribers per base station.

All those leverage effects, combined with market-specific regulations, have led to highly concentrated competition in terms of subscribers and revenue share. Almost 80% of all subscribers and close to 88% of market value belong to the first- and second largest operators across the 30 most-relevant markets in the region (see Exhibit 1).

But that reality is rapidly changing in core parts of the regional markets, creating a new “normal” of squeezed profitability (EBITDA percentage), increased CAPEX requirements and intensified competitive dynamics. In this new paradigm, operators need to race to radically adapt their operating model or ultimately exit selected markets.

Subscriber growth peaked in 2010, and by 2012 and 2013 the first revenue contractions hit selected markets. Revenue growth also began to decelerate across the region to an estimated US\$ 4 BN between 2010 and 2012 for a total of US\$ 39 BN in 2012. Between 2008 to 2010, this growth was 25% higher at around US\$ 5 BN. EBITDA for non-leading market operators was already contracting as early as 2008.

These conditions forced operators to shift their attention outside the “leverage zone” when it comes to geography, customer segment and service. In response, most operators pursue ambitious (i.e. expensive) network deployment programs to sustain their revenue sources.

This behavior currently manifests in three ways: First, operators propose network expansion programs in urban and semi urban areas for the next wave of subscriber acquisition. Second, they rush to deploy 3G and 4G technologies to capture pent-up demand for data services, aided by new subsea connections and a generally more open licensing environment. Third, operators expand their business model to include adjacent services, such as financial applications, or underserved segments, such as corporate and enterprise clients. These measures, however, will likely exacerbate market concentration and deteriorate operators’ economic situations.

This combination of operator strategy and market conditions makes CAPEX planning and execution one of the most (if not the most) important business lever to control. With ARPUs declining and CAPEX needs outstripping ARPU declines, network project design and deployment become the strongest drivers of cash flow.

In fact, the trend has been in full swing for the last four years. The correlation factor for market share and EBITDA levels among operators in emerging markets increased by 50% between 2009 and 2012, from around 0.4 to around 0.6. For the sub-Saharan region in particular, that correlation moved from 0.6 to 0.8.

The underlying reason: Market leaders command a hefty premium – up to 35 percentage points – over the third, fourth and fifth operators. While ARPU across the region declined by almost 15% between 2009 and 2012, challenger’s EBITDA margins deteriorated at the same pace or faster than their market share (see Exhibit 2).

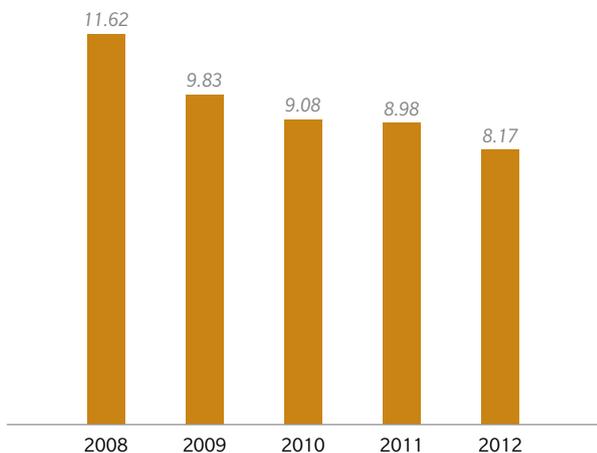
If the minimum EBITDA margin to sustain long-term operations is set at 20 percentage points, 95% of the operators analyzed in the region with market shares above 20% showed margins above 20% for all of 2012.

Conversely, 40% of those below 20% market share also showed EBITDA margins below that critical number. And half of those below the 20% marketshare mark showed negative EBITDA margins (see Exhibit 3 for selected operators).

International macroeconomic conditions are not helping to mitigate this trend. As global growth slows and demand for Africa’s commodity exports diminishes, the region can expect a negative impact on GDP figures. As liquidity dries up and investment opportunities in less-risky arenas become more attractive, funding and investments will withdraw from the emerging African markets. Because this will cause both the addressable market to recede and investment appetite to reduce, sub-Saharan African telecom operators are trapped by a triple threat: increased investment needs, an expanded commercial focus and an unfavorable macroeconomic setting.

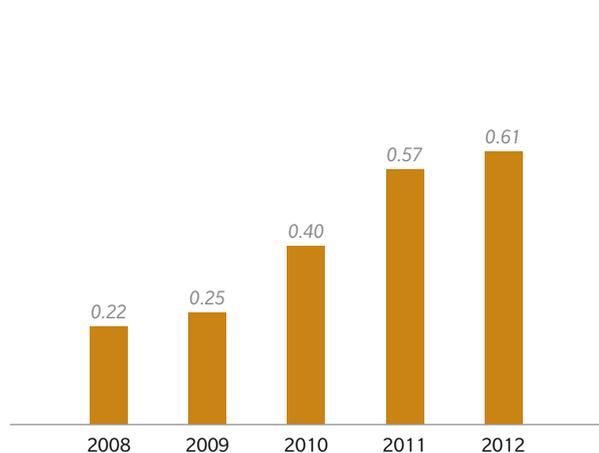
Exhibit 2: As conditions worsen in emerging markets, correlation between scale and EBITDA strengthens

AVERAGE ARPU (WEIGHTED BY SUBS): EMERGING MARKETS US\$, 2008-2012¹ (57 TOTAL)



ARPU has declined as competitiveness in emerging markets has increased

MARKET SHARE VS. EBITDA MARGIN: R² 2008-2012



This has strengthened the market share vs. EBITA margin correlation

1. Countries in 2012 dataset include all counties where GDP capita in 2012 was US\$ ~12,000 and EBITDA margin was available for at least one operator
Source: WCIS, Oliver Wyman analysis

Exhibit 3: The link between market share scale and EBITDA in sub-Saharan African telecom markets grows stronger (selected operators)



Left: Operators considered: Spacetel, Unitel Angola, MTN Nigeria, MTC Namibia, Spacetel Benin, Zain Sudan, MTN Cameroon, MTN Ghana, Cell C, Investcom Guinée, Safaricom, Bharti Airtel Nigeria, Vodacom South Africa, MTN Cote d’Ivoire, MTN, Bharti Airtel Kenya B.V., MTN Sudan, Bharti Airtel Ghana

Right: Operators considered: MTN Nigeria, Unitel Angola, Orange Mali, Cabo Verde Telecom, Orange Bissau, Spacetel, MTC Namibia, MTN Cameroon, Spacetel Benin, Orange Guinee, Econet Wireless Zimbabwe, MTN Cote d’Ivoire, Zain Sudan, Vodacom South Africa, Safaricom, MTN Ghana, MTN, MTS, Bharti Airtel Nigeria, Investcom Guinée, Telkom South Africa

Within the countries that witnessed exceptionally large growth between 2002 and 2010, the subset of the population that the Financial Times has dubbed “the fragile middle class” will struggle to retain their status. According to the World Bank, 300 million people lived on between US\$ 1.25 and 10 per day (PPP adjusted) in 2002 (for 43% of the total) in the region.

By 2010, that percentage had grown to 49%, or approximately 320 million people. The future of the telecom market will closely follow the fate of that bracket of people in the coming years, as they dictate ARPU.

But these trends do not spell the end of opportunity in Africa. Subscriber and

revenue growth will remain significant over the next five years. Only an estimated 60% of the human potential in the region has been realized to date. Another 300 to 400 million subscribers are expected to join the market by 2019 and lift total revenue to US\$ 50 BN. Data services are in their infancy, and innovative areas such as banking and insurance services, m-commerce (as seen in Kenya’s internationally lauded mobile money solutions) or m-government are likely to develop faster and more freely than in developed markets, which are hampered by more rigid structures and legacy operations. In fact, the sub-Saharan African markets may become some of the most dynamic and attractive places in the world as long as operators manage to endure and adapt.

The sub-Saharan African markets may become some of the most dynamic and attractive places in the world as long as operators manage to endure and adapt.





THE WINNERS OF TOMORROW BACK TO BASICS AND TIGHTER FOCUS

Regional operators have already responded, mostly by focusing on sustaining profitability by entering new segments and launching non-voice services or, to a lesser extent, by reducing input cost through operational expenditure control and CAPEX rationalization. Almost all top pan-African players are extending their services and footprint across the continent. To match the expected surge in mobile data and 3G subscribers that smartphones bring, leading markets are swiftly rolling out data networks. Business Monitor International predicts the number of 3G subscribers in the region will roughly double by 2017, reaching more than 140 million.

After years of promise, the tower-sharing market finally took off in the last three years. All major regional groups have either concluded partial or total deals or show signs of doing so. By mid-2013, close to 25,000 towers were managed by professional tower-management companies in the region.

The corporate M&A landscape has also been gathering momentum. This stems from both the need to reach scale and the realization among some operators that not all region markets offer a bright future. For example, etisalat has recently acquired a controlling stake in Morocco telecom involving the transfer of its west African operations and rumors abound that Orange will exit from some of its 16 units in the region.

If operators want to avoid such setbacks, the devil lies in the detail. Enduring success will not come from quick fixes like “cutting and pasting” solutions that ignore the specifics of individual markets or from believing that new will always champion over old.

The truth of the matter is that data substitution must compensate for the bulk of the revenue erosion in voice service. Because this will have to occur in markets where the vast majority of the addressable market has volatile discretionary income and most customer bases consist of prepaid subscribers, sub-Saharan African operators will not be able to use the traditional levers to control user profitability and data price erosion. Fresh revenue from enterprise or m-financial services will not likely replace the core revenue lost, but they will certainly add to the complexity and cost base of operations.

Tower outsourcing and other “over the top” CAPEX reduction or “sale and lease back” measures can immediately boost cash balances but eventually hinder operators’ ability to develop and sustain market leadership in high-speed data services. Network coverage, quality and performance continue to be differentiating factors in many of those countries and, in part, the reason why market leaders can sustain ARPU premiums over time.

Ultimately, misjudging or miscalculating an acquisition’s value or the operator’s ability to sustain market share (and consequent EBITDA) can have catastrophic financial results. As market conditions worsen, losers in the high-concentration game may start to behave irrationally, triggering value-destroying price wars.

CONCLUSION

In short, market leaders need to go back to basics. This means leveraging their current scale, market presence, and branding/leadership strength to effectively extract value in the new service and segment environment. They will need to work harder for an equal or smaller amount of market profit. Those in the second tier will face a fork in the road.

Either they redesign their ambition and business model to survive at an ARPU lower than the leaders' or they consider consolidation. If the third-tier operators have not already been swallowed by their peers, they need to head for the exit. The sooner the better.



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Telecommunications operators are strongly affected by regulation in their ability to create value.



MODERN TIMES

POLICYMAKING IN THE TELECOMMUNICATIONS INDUSTRY FOR THE DIGITAL AGE

Telecommunications operators are strongly affected by regulation in their ability to create value. Regulation influences the markets where they compete (e.g., signaling players with market dominance), the geographical boundaries of these markets (e.g., in Europe driving the advent of a unified market) and the relationships with other agents in the digital ecosystem (e.g., net neutrality).



Regulation and public policy in the telecommunications industry have their foundations in the microeconomic theory of equilibrium under static conditions. While it is arguable that this model was appropriate back in the 1990s when the industry was liberalized, the context in which telecommunications markets currently evolve is totally different. Today, telecommunications is one among many building blocks of the digital economy on the Internet, an ecosystem of linked agents in a permanent and accelerated process of change. The assumptions over which the regulation and public policy for the industry were built can no longer hold and relying on them risks serious unintended consequences.

It is becoming urgent to define a new model for public policies in the telecommunications industry, one aimed not only at protecting consumers, but also at fostering innovation, and that is able to unleash the wealth creation potential of the digital economy as well as to correct the less beneficial outcomes when they show up.

Today, telecommunications is one among many building blocks of the digital economy on the Internet, an ecosystem of linked agents in a permanent and accelerated process of change.

CRITIQUING THE STATUS QUO

Regulation and public policy strongly influence the general evolution of the telecommunications industry and its economic performance. Such was the case in the past, when a specific regulatory framework led the opening of former monopolies to competition, and such is the case nowadays, when telecommunications are a core element of the digital ecosystem and the digital economy.

Telecommunication companies are affected by regulation and public policy in three main dimensions:

- The markets in which these companies compete, where different layers of public policies and regulation set rules for a varied range of topics, from competition to customer-privacy protection, including universal service obligations.
- The geographical scope of the activity of telecommunication companies, especially relevant in Europe with the movements toward a unified market.
- Across the value chain of the digital ecosystem as a whole, where relevant issues include the asymmetric regulatory conditions that apply for operators, on the one hand, and OTTs, on the other (despite offering similar services), or the debate about net neutrality.

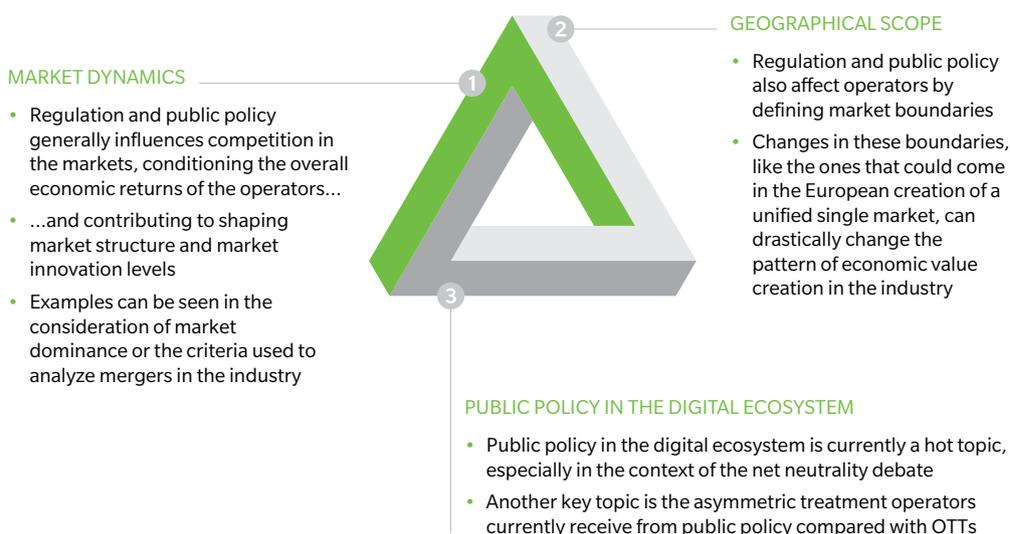
While the overall business environment has changed dramatically for telecommunication operators in the last 15 years, the basic foundations of the public policies and regulation building remain mostly the same. This brings up two questions: Should regulation and public policy be revised? And if the answer is “yes,” in what direction should this revision take place?

Relevant issues include the asymmetric regulatory conditions that apply for operators, on the one hand, and OTTs, on the other (despite offering similar services), or the debate about net neutrality.



Exhibit 4: Regulatory impact in the telecommunications industry

Telecommunications operators are affected by regulation in three dimensions



OLD TIMES, MODERN TIMES

The regulatory approach that has brought the industry from the moment it was liberalized to its current status is well known. Because telecommunications companies existed as monopolies, when the markets were opened to competition the transition had to be monitored and managed by regulators. The key concept in this approach was market power, understood as the set of circumstances that enable a given company to set anticompetitive conditions in the market, take the market away from competition and capture all wealth. Regulators identified markets within the telecommunications industry in which market power could be exerted and established rules for any agent potentially capable of exerting it.

The foundation of this approach is the neoclassical microeconomic theory of equilibrium. This theory is well suited for static systems or markets in which dynamic effects are not relevant compared with the steady state at which such systems supposedly arrive.

In such market models, disruption caused by innovation and technological change shouldn't be a determining factor in policymaking. To what extent are these premises relevant to the telecommunications industry?

Let's review some of the most significant changes the industry has gone through since its liberalization:

- Relentless development of access technology in fixed and mobile (fiber, 3G, LTE, etc.) providing higher throughput and diminishing costs
- A multiplication in the types of terminal equipment that are connected to these networks: computers, smartphones, tablets, wearables, connected appliances, cars, etc.
- New uses for these networks, which go beyond traditional person-to-person communication, such as information, entertainment or business
- Emergence of new business models, from the traditional subscription/pay-per-use model to advertising-based, or even collaborative ones



- Decoupling of services and applications from the networks
- Universal diffusion of usage, with billions of users all over the world

One statement in particular illustrates the events that have shaped the industry: The telecommunications sector has been subjected to permanent change in business models and technology.

It is obvious that this amount of change cannot be handled by an approach that has a primary theoretical basis in static equilibrium.

We can therefore conclude that current regulations and public policies governing the telecommunications industry are ill-prepared to nurture telecommunications in a digital economy.

FOUNDATIONS FOR A NEW TIME

Some of the main traits of the digital economy that must be kept in mind when defining any kind of public policy or regulation on it are:

- The most relevant economic element in the digital economy is innovation and not market power. It is innovation that generates value, destroys value and makes value flow.¹ The digital economy is a system in constant flux, in which agents are always outside any kind of equilibrium.
- Innovation is responsible for maximizing consumer wealth in the midterm, not prices.²
- Both evidence and (increasingly) economic theory state that perfect competition is deleterious for innovation.³ It follows that perfect competition shouldn't be a public policy objective in the digital economy.⁴

Those traits are not compatible with a theoretical approach based in neoclassical microeconomic theory. The right foundation to analyze, understand and set public policies for the digital economy must include the economics on innovation itself,⁵ the evolutionary models of economic change⁶ as well as the tradition that comes with the analysis of innovation in business organizations.⁷

We think that the situation of the telecommunications industry in Europe stems from the inadequacy of the current approach to public policy and regulation. Europe led the development of mobile communications for over two decades, but now lags behind North America and Asia on the deployment of new networks and services. In other words, the European innovation machine is stalling, and it is not a wild hypothesis to relate this fact to a set of public policies and regulatory rules aimed at preventing market power, rather than fostering innovation.

1. The relevance of innovation as an economic factor is neither new nor strange to economic theory. Schumpeter saw innovation and the innovation process, which he famously named as "creative destruction," the core of all the dynamics of capitalism.

2. Again, Schumpeter stressed the dominance of innovation and innovation-based competition over price-based competition as the main driver of capitalism.

3. Peter Swann, *The Economics of Innovation* (London: Edward Elgar Publishing, 2013).

4. Innovation happens when the innovating agent has both resources and incentives to drive it. In perfect competition, the innovating agent would be strongly incentivized, but usually he or she would lack the required resources, since all surplus would have evaporated from marginal cost equaling price in the market.

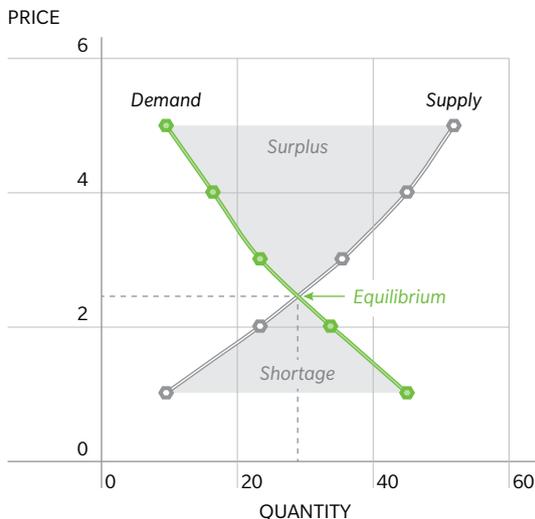
5. Peter Swann, *The Economics of Innovation* (London: Edward Elgar Publishing, 2013).

6. R.R. Nelson and S. G. Winter, *An Evolutionary Theory of Economic Change* (Cambridge: The Belknap Press of Harvard University, 1982).

7. Geroski, P.A. and Markides, C., *Fast Seconds: How Smart Companies Bypass Radical Innovation to Enter and Dominate New Markets* (San Francisco: Jossey-Bass, 2004).

Exhibit 5: Two different approaches: an example

As an example to illustrate the differences in approaches, what would the traditional and the innovation-based approaches to regulation consider a market failure?



CLASSICAL EQUILIBRIUM APPROACH

Market failure would be any situation leading to a market structure distant from perfect competition, meaning one that offers goods or services at prices higher than marginal cost

INNOVATION-BASED APPROACH

Market failure would be any situation in which the pace of innovation was lower than the optimal one, leading to reduced wealth among consumers due to a total lack of access to new services and applications

THE WAY FORWARD

In the context of the digital economy, in our view, telecommunication public policy has to be revisited, and that a blank-sheet approach is required, where even the basic foundations have to be assessed and, most likely, redefined. Although doing so in detail requires discussion beyond what this article can deliver, we can propose several ideas to help initiate the process. These ideas are best broken down into two main guiding principles. Other topics essential to this discussion will be outlined here as well.

The two main guiding principles in establishing new foundations for public policy and regulation for the telecommunications industry are:

- 1. Covering the full ecosystem:** The reference economic and social system has to be the digital ecosystem as a whole: telecommunications operators and other agents in this ecosystem are so intertwined that the effects of any public policy cannot be easily isolated. Meanwhile, asymmetric regulation creates undesirable distortions in the behaviors of the agents and jeopardizes the preservation of some relevant values such as competition enforcement, customer protection or tax policy.



2. Protecting innovation: The main objectives for public policy and regulation have to be, to an equal degree, consumer welfare and innovation. The current approach has been, at least in Europe, too biased toward securing consumer welfare with low prices, and, as discussed, this principle has harmed the market's ability to innovate.

Asymmetric regulation creates undesirable distortions in the behaviors of the agents and jeopardizes the preservation of some relevant values such as competition enforcement, customer protection or tax policy.

We believe the required revision has to be a comprehensive one. Specifically, it must cover, among others, the following core topics:

Market definition (role orientation):

Different roles in the digital value chain should be identified with an applicable framework, which may differ for each relevant role (i.e., from infrastructure players to different varieties of service providers). These frameworks need to be tailored to the role (not the player), establishing different obligations and rights depending on the diverse roles a single actor can play. For example, a telecommunications operator and an OTT offering the same services (playing the same role) have to be treated equally.

Geographic consistency: While each policymaker or regulator can and should legislate only over its specific area of responsibility (national, European, etc.), these frameworks need to be consistent from a supranational perspective, taking into consideration the borderless nature of many digital services. Extensive coordination and guidelines efforts are required from coordination bodies. As a general principle, regulation should follow the borderless nature of the digital ecosystem agents.

Governance consistency: Players in defined markets need stability in terms of the different regulations they are subject to and the regulatory bodies that will enforce these rules (whether ex ante or ex post). These regulatory bodies (including competition enforcement, consumer protection, technical regulations, etc.) need to be minimized. Ex ante and ex post regulation need to be applied consistently following a clear set of rules, as well as penalties and remedies for undesired behavior.

These regulatory frameworks need to be tailored to the role (not the player), establishing different obligations and rights depending on the diverse roles a single actor can play.

Finally, we think that there are a number of topics that require revision as well, since they form the conceptual foundations over which the whole public-policy framework is built. Without rethinking these topics (and thus evolving the current theoretical framework), we believe the needed revision will not achieve all of its goals. These fundamental topics are:

- Business models and economic relationships between the different agents; role description and characterization
- Value chain quantification and market share estimates per role
- Definition of the ultimate goal of regulation and, consequently, the desired behavior of agents and the dysfunctional risks to be corrected

CONCLUSION

We believe that a full revision of regulation and public policy for telecommunications operators in the digital economy is needed to ensure not only that consumers maximize their welfare, but that the industry unleashes all the innovation potential it embodies:

For regulators, policymakers, industry associations: Set consistent definitions, goals, fact-based principles for policy creation and solid theoretical models to define a new regulatory framework that covers the above-mentioned objectives.

For industry players, whether telecommunications or service providers: Understand the implications, likelihood and timing for such frameworks to be designed and implemented. Assess the impact on current business potential and craft a strategy that can adapt to potential changes. Actively participate in these discussions to ensure first-hand industry input to the definition process.



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A conversation
about next-
generation
opportunities



MOBILE EVOLUTION

AN INTERVIEW WITH JAVIER ALBARES ON NEXT-GENERATION OPPORTUNITIES

We interviewed Javier Albares, who is Head of Corporate Strategy for the GSMA. The GSMA brings together nearly 800 operators and 250 companies worldwide, including handset and device makers, software companies, equipment providers, and internet companies.

In this paper, we discuss trends in the mobile sector and their implications for the future, and we share Javier's unique insights about the developing market from the perspective of customers and operators.



OLIVER WYMAN: In many markets the playing field is redefined around convergence instead of separate fixed and mobile markets. Is there any room for mobile-only operators anymore?

JAVIER ALBARES: Imagine a matrix with advanced and emerging markets on one axis and consumer and enterprise segments on the other. In advanced economies, both in consumer and enterprise segments, the move to convergence is a reality – and is happening in Europe, Advanced Asia and also in the United States. But if we look at the situation in emerging countries, especially the consumer space, this evolution is less clear.

In future, I think it will be more complicated for mobile-only operators to have a leading role in advanced economies. That doesn't mean they won't have a role; there will probably be a player with that profile in every market. But such an operator will need to evolve its business model. Wireless will continue being central but wires in the ground matter more and more given that balance of traffic is shifting and now 80% of data is on wi-fi not cellular. Mobile operators are only carrying 20% of traffic and even their backhaul is key so there is undoubtedly a movement towards having more advanced infrastructure. Also, if you have more services to sell around a common network there is a greater value opportunity.

There will always be opportunities for mobile operators in services that require some kind of quality management, security and physical proximity. Nevertheless, a mobile-only player will need to be also very lean and possess a lot of strong commercial capabilities. And compared to more convergent players in the market, it's likely that mobile-only operators will also have to compete with a more efficient cost structure.

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Javier has more than 20 years of experience in the telecoms, media, and internet sector. Prior to joining the GSMA, he worked for 14 years at Telefonica in different roles in strategy and business development, both in Spain and Latin America. He also worked for several years as Telecoms & Media Corporate Finance Analyst for HSBC in London. Javier holds a degree in business administration and an MBA.



Is the trend towards convergence, as a driver of market consolidation, going to continue?

Yes. It's a major trend and convergence is triggering a reconsolidation of the industry but I think we can differentiate market convergence on two levels: convergence 1.0 in the short term and convergence 2.0 in the medium and long term. Convergence 1.0 is what we have today when we talk about value propositions and multi-play competition. It brings together connectivity and content on mobility to add value, and the various players are trying to build on it using different assets and technologies.

This development is being led by commercial departments and is the result of two main drivers. A very healthy "pull", based on consumer demand, is influencing convergence. For example, while consumers are looking for things like simplicity, they also want multi-screen propositions. This is a healthy trend because it can create value at the operator level, and operators are trying to explore this, but it is moving slowly.

Then there is a less healthy driver coming from operators themselves in the competitive arena. For example, if we consider all the discounts that are being offered with the different bundles in some countries, I'm not sure the results – in terms of customer churn – can justify this approach. It's less clear that this is creating value although the economic opportunities nowadays are as much in lowering churn than are about revenue growth.

So, if we look at these two drivers, we find markets where the first driver, the healthy one, is initiated by consumers and is creating value; the second one is not permanent. The opportunities for operators in the short term are in developing intelligently that first driver. There is a more transformational convergence, which we call convergence 2.0. This is the level that the GSMA, as the association for the mobile industry, is more interested in now. The focus is on how the current networks can evolve into something that will be completely seamless for our customers, with access technologies that offer a multi-access, multi-device, and multi-service proposition. We are very interested in understanding how next-generation networks – all-IP, cloud, big data, network function virtualization (NFV), and software-defined networking (SDN) – are going to be integrated.

Convergence 2.0 is likely to have a big impact. I believe it's going to reshape the way the industry is organized because it will be a key point of differentiation for operators in the future.

There is some concern about the lack of a level playing field between operators and internet players, for example in privacy, market dominance, price discrimination, and tax compliance. In your opinion, does the regulatory framework need to be reformed?

The real point for me is that internet companies are unregulated and competing against people who are. At some point, laws will need to change and the loop holes that these companies benefit from won't be there. Given the current environment, I don't think it is likely that the market will be reformed straight away, but perhaps we can begin a process with regulators and policy makers to do it through several years. We need to better educate our regulators on the important areas of the new digital ecosystem, where there is competition at different levels with new players.

“With our lives and economies moving to digital, the issue of privacy will also need to be revisited.”



“If regulators focus only on price levels, there will be important implications for future investments.”

This new arena can be referred to as “asymmetric competition”. By this, we mean there are certain players that can offer connectivity and communication services because they’re not trying to extract value from those services; they’re extracting value from something else, namely other services that are tied to their connectivity or communication offerings. This approach is okay to keep prices artificially low but has an impact on the long-term investment plans of infrastructure planners and, if regulators focus only on price levels, there will be important implications for future investments.

Issues such as market dominance clearly have to be revisited. We recently analyzed the proportion of time that mobile customers spend on connectivity services provided by an operator: it was less than 6%. For the remaining 94% of their time, they were using other services that are usually controlled by a very small group of internet companies. With our lives and economies moving to digital, the issue of privacy will also need to be revisited. Our society needs to have a debate about what can and cannot be done with all the information that is generated by our digital activities, and to have fair rules that can be applied to all players in the ecosystem.

Tax and tax compliance are important, too. As economies move increasingly towards a digital environment, companies need to have a clear domicile – for legal as well as tax purposes – and I believe this should be addressed globally. This is also one of the areas where I think the playing field could be levelled.

Do you think the regulatory framework could encourage more investment in network infrastructure without harming innovation?

Innovation is clearly a key driver, and I think regulators should try to focus on this in the next few years. We should remember, too, that value creation and innovation are closely related so it’s important that a regulatory framework can incentivize investments as the key enabler of economic growth.

Evolution in the mobile industry recently seems to have been driven more by companies selling handsets than by network operators themselves. Would you say this trend is likely to continue in the near future?

Yes, we are seeing value moving from hardware to software and from the network layer to the service and platform layers. It’s extremely difficult for the operator community, given its current fragmentation and equity storyline, to compete with the huge innovation community that is funded by VC with a very different attitude towards risks and returns. Think of Silicon Valley, for example. There’s a completely different DNA and investor profile out there.

Telecoms operators have been late to understand the new rules of competition. Having said that, not all players are the same. There is a great deal of interest currently in areas like the network of the future and the future of the SIM, especially in the technological evolution enabling the new embedded SIM to come to market. Also, some network vendors and handset providers are more operator-friendly than others. This is a challenging area but I think the potential does exist for working in more collaborative partnerships.

I’ll give you an example. Network operators have recently defined common standards for future IP comms that include specifications for VoLTE (voice over LTE), ViLTE (video over LTE), rich communication services (RCS), and voice over



wi-fi. But they still have to incorporate these into the most important operating systems: Android or iOS. For me, this shows how important it is for operators to collaborate, working together to solve the kinds of evolutionary problems that are likely to crop up in the future.

Many customers switch off data roaming on their smartphones when travelling abroad, fearing high and unpredictable prices. What could the industry do to make affordable data access available, to save customers having to buy a second SIM or find a coffee shop with wi-fi?

The level of untapped demand for roaming services means there is potential for operators not only to gain additional revenues but also to increase customer satisfaction and avoid disintermediation if they address this issue proactively. Current roaming structures are going to be difficult to sustain in the future, and I'm not just talking about the regulatory pressure to reduce tariffs. New technology revolutions such as voice over wi-fi, Hotspot 2.0 and embedded SIMs in consumer devices are going to be very easy for customers to switch to. Currently, operators are capturing only 4% of the potential roaming space; another 46% is captured by wi-fi and 50% is lost because customers reduce their service usage when they travel abroad.

“5G offers great potential for both consumers and industry but there is a lot of hype in the market and I do not think there is yet a clear understanding on what 5G will be.”

What we have here is an important customer behavior issue, which the market needs to address quickly. If we don't find a solution, it might trigger the commoditization process. Take the new Apple SIM, for instance. It enables customers to easily change provider when arriving in a different country: all they have to do is find the cheapest provider and very efficiently move from one to the other.

Customers like transparency and control, and these are key issues. I would say predictability and affordability are equally important. People are not totally against the idea of paying for a service when they travel but they want to know that it's going to be predictable and affordable. They want to know how much it will cost and do not understand why the cost per MB is in some cases 40 or 50 times the price they pay at home.

We think this can be addressed without necessarily having a longer-term negative impact on operators' profit and loss statements given the positive elasticity in roaming. All the operators that have implemented different structures have shown positive results after a few months. We are starting to see innovative tariffs in the market however, for me, the real question is how to implement this globally on a consistent industry-wide basis.

Many operators are still deploying 4G and its derivatives but there's already a lot of interest regarding 5G technology. But what is 5G?

5G offers great potential for both consumers and industry but there is a lot of hype in the market and I do not think there is yet a clear understanding on what 5G will be. For some people in the industry 5G refers to next evolution of radio interface, with specific requirements that go far beyond 4G and that will require a true paradigm-shift; for others it's more about the evolution of the operators and their networks including aspects that are already being considered on 4G and its enhancements.



This second heterogeneous vision is more evolutionary and will integrate multiple types of access technologies and multiple types of devices together with new energy and efficiency requirements. This second vision is basically what we have defined internally as convergence 2.0 in absence of a better concept to differentiate it from 5G. Given the importance of its implications, I think we need to educate our stakeholders on what do we really mean when we talk about 5G. Is it “next-radio access evolution”? Or does it mean, in broad terms, the evolution of operators’ business models to support highly mobile broadband access and services everywhere? GSMA has published recently a white paper trying to add some light on this issue.

When do you expect 5G to be available commercially?

As for timing, we now know that the industry is going to invest \$1.7 TN in 4G networks in the next five years, and the main focus will be to monetize these huge investments. The 5G services are unlikely to be deployed before 2020. Initial testing is likely to take place in 2018 with the Winter Olympics in South Korea or in 2020 with the Summer Olympics in Japan, but we don’t expect to see any big development before this. In my opinion, 5G will offer an opportunity to develop a more sustainable operator investment model.

“In my opinion, 5G will offer an opportunity to develop a more sustainable operator investment model.”

Apart from the greater bandwidth, what will be the key 5G feature and how will it differ from 4G?

Strictly speaking, progress towards the next generation of 5G networks will depend on two important technical requirements. The first is 100% coverage, which together with the 1 GBit-per-second bandwidth is very challenging. It can be done but will be very expensive. The second – and more disruptive – requirement is the 1 millisecond latency. This will be extremely difficult to achieve unless we change a lot of paradigms, for example about network topology and interconnect. A lot of innovation and industry-wide collaboration will be required for 5G to happen. Once these technical challenges are solved, and assuming that additional spectrum is allocated for 5G, commercially viable use cases and new business models will have to be developed and that is an area with lots of open questions, from regulation to ecosystem collaboration.

In terms of potential services that could define 5G and that will be different from the 4G ones, the combination of these two requirements (high bandwidth throughput and low latency) on mobility, opens up the opportunity for new services like autonomous driving, augmented/virtual reality services, remote controlled services like telemedicine or real-time gaming.

I can envision a new world of services like self-driven cars and remote surgery, although regulatory changes as well as new quality/traffic control standards will be necessary. For example, will data traffic for remote operations be handled with the same priority as simultaneous music downloads? An increasing reliance on artificial intelligence rather than human performance will also lead us to think differently, from a regulatory and political point of view, about how we deal with data management.

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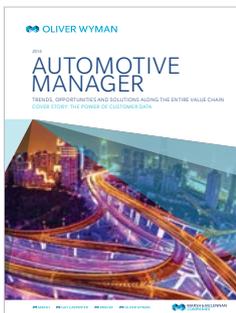
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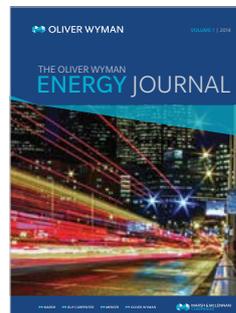
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