MVNO AT A POINT OF TRANSFORMATION »

New models for business and partnership

In little more than ten years, the MVNO (Mobile Virtual Network Operator) has emerged as one of the most influential models in the telecommunications landscape. From the point at which it became possible to decouple the provision of differentiating telecommunications services from the ownership of either network infrastructure or Radio Access Network (RAN) allocation, the future viability of the MVNO model was assured.

In its brief history to date, we have already witnessed numerable and often surprising mutations in its composition and business logic. In this short paper we will take a look at how these changes point us towards what could happen next.

Atos Origin believes that the MVNO model is entering a new era of "creative destabilization". We believe that a combination of technology, regulatory, social and business change is about to take the MVNO proposition into new territory. We will ask what this could look like, and what it could mean for those whose business will be affected.

We hope this paper will be of interest to a broad audience. This extends beyond those already engaged in MNO (Mobile Network Operator) and MVNE (Mobile Virtual Network Enabler) business, to include members of other sectors seeking to understand how these developments can be turned to business and operational advantage.

Contents:

White Paper

Atos Origin Telecommunications and Media Unit
Transformation for Success

WHERE ARE WE NOW?

Step back from the MVNO story for a moment, and look at how the diversification of the current telecommunications and media market has changed over the last ten to fifteen years. More has happened in terms of technology, business and culture in this short span, than over the previous fifty years.

It is worthwhile looking at the "mix" from the consumer perspective – as this provides the clearest pointer to what will be expected of any provider of (tele)communications services from now on. For consumers, the industry segmentation shown in figure 1 increasingly blurs into a single experience as individual consumers make choices about the devices they want to use, about the most convenient contract, and about the range and nature of services they prefer.

For the telcos, the device manufacturers, the content providers and the rest – all these consumer decisions become opportunities to fight for market share – but for the consumer, all of this diverse and traditionally differentiated business aggregates into one lump.

Today, this perceived aggregation is still immature – despite the best attempts of providers to develop triple/quadruple play strategies. Although bundled services are gaining traction, many people still have separate contracts. As we move forwards, however, we can expect rapid and dramatic acceleration of this move towards aggregation of service and technology in the provision of a rationalized consumer experience.

MVNO - LITTLE EMM – BIG VEE

As the MVNO model moves center stage, the Emm for Mobile will become a given and the Vee for Virtual will become the defining value. Here's why.

Although the roots of the MVNO model lie firmly in the world of mobile communications, mobile has

Atos Origin sees the MVNO as having an absolutely pivotal position.

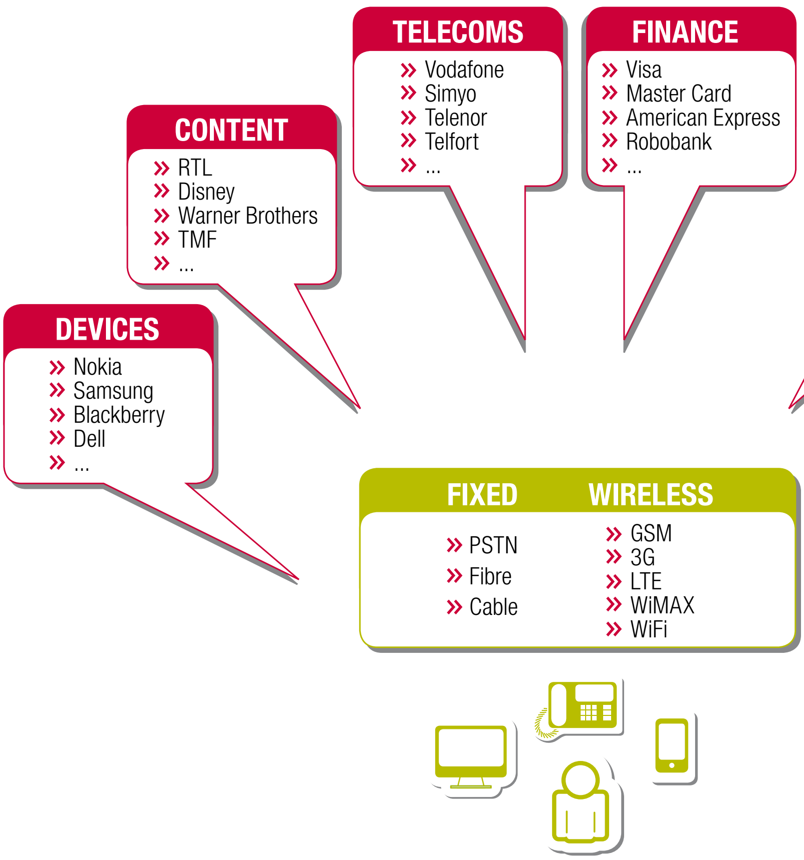

Figure 1: Even if the industry perspective is complex, the consumer perspective is not.

moved from the periphery to the core. Irrespective of the fact that wire-line and cable services use a fundamentally different platform, from the user perspective, increasing expectations for "anywhere/ any-how/any-time" access to everything has obscured the boundary between fixed and mobile services irrevocably.

As mobile becomes a given, the ability to collaborate in the provision of a seamless virtual service becomes an essential part of the game-plan for any of the complex mix of players shown in figure 1.

EUROPE IN THE LEAD (FOR NOW)

Europe has been the incubator for the emergence of the MVNO model as we know it today. Germany, the Benelux, the Nordics and the UK lead the way, with France, Italy, Spain and Eastern Europe following through in the second wave.

There are three reasons for early European dominance of the MVNO model:

1. **MOBILE PENETRATION** – there are more mobile devices in Europe than there are Europeans.

2. **REGULATION AND GEOGRAPHY** – with so many countries squashed into such a small space, European regulation must take into account the ease with which so many Europeans can live in one country, work in a second, and shop in a third – for example.

3. **ETHNICITY** – many European countries have both established populations and visiting workers with friends and family in Asia, Africa and Latin America – all of whom want to keep in touch.

Although Europe has been in the lead to date, the distribution and adoption of the MVNO model is already beginning to shift, both in terms of geography and sector. From now on, we can expect a surge in the importance of the MVNO model on the global stage, as different players ask how the model can benefit them:

- MNOs that until now have sold capacity to MVNOs, seek to establish their own MVNO brands as a means to national and/or international expansion.
- Pure MVNOs, with no network ownership or spectrum allocation, extend the value-added communications services which are their core business.
- Non-telecommunications players (retailers, media companies, etc) introduce communications services as an integral part of their proposition.
- Fixed and cable operators use the MVNO model to add mobile services to their existing portfolios.

This is the also the context in which companies, like Atos Origin, with specialist MVNO and MVNE propositions, are making their move.

COST IS NOT ENOUGH

From here on, value will overtake cost as the key to success for anybody wishing to take advantage of the MVNO model. But that does not mean cost drops out of the equation. Anybody wanting to build business around the MVNO model must continue to ensure that when a potential client holds up options for comparison, they cannot have their lead cut from under them on cost.

It is worth taking just a moment to look at cost as part of the original MVNO commercial logic. The original relationship between the MNO and independent MVNO was underpinned by the understanding that "10% of something is better than 100% of nothing." It worked like this:

- MVNOs sold services to their target customers leading with cost.
- MVNOs carry the cost of customer acquisition and management.
- By eliminating these customer acquisition and management costs, selling only network capacity to MVNOs became a new and profitable wholesale business for telcos.
- MVNO profits were determined by their ability to reduce acquisition and management costs – usually through internet-based customer interaction - while keeping "offer" pricing compelling for target clients.

THE FUNDAMENTAL SHIFT

This model broke the rules. Most importantly it allowed MNOs to question their own core business. Where previously, ownership of the network was seen as something to be fiercely guarded, the new model acknowledged that opening up the ways in which the network could be put to use by third parties could lead to completely new streams of revenue.

With an initially unexpected twist, it quickly turned into poker. Recognizing that MVNOs could achieve direct reach into niche markets which had remained elusive, MNOs themselves established MVNO brands as a means of moving more freely amongst, for example, youth markets.

Put all this together, and we arrive at a fundamental and disruptive shift, which brings us to the "point of transformation" at the heart of this paper.

Seen initially as a disruptive threat to telecommunications companies, the MVNO model is now a means to increase market opportunity in a climate in which both consumer and enterprise customers display an insatiable appetite for digital communications services. Nested within the disruptive threat of the MVNO model, all players also need to manage a new wave of disruption from pure IP players, such as Skype.

This has three significant implications for the MNO and MVNO:

- Mobile access capacity becomes as asset which can be traded profitably independently of the services for which it is used.
- Both passive and active network-sharing (on a national and international scale) will further reduce the cost of the core infrastructure.
- Core savings can be increased further as network operation and maintenance are offloaded to specialist providers.

Driving cost out of the model results in both challenges and opportunities. Those MVNOs that built their business on offering the cheapest rates will find it increasingly tough to generate the volumes needed to generate sustainable profit. As cost ceases to be a differentiator, MNOs and MVNOs need to change their proposition. This shift can be either incremental or transformational:

- **INCREMENTAL** – leading on "cost + value" – not just the cheap rate, but the rate with added service value. Examples include bundled internet or "family and friends" options.
- **TRANSFORMATIONAL** – leading with value, but ensuring that acceptable cost limits are not exceeded. Examples include full media-rich communications packages, with the latest device wrapped into the service. Virgin Media express this clearly in their own proposition – "choice, innovation, value-for-money" (cost remains important, but it is not in the lead).

With the MVNO model in place, and with the ability to compete on cost alone getting to the end of its market life, the actual differences between MNO and MVNO also become less distinct.

INTERNATIONAL HORIZONS

Telecommunications markets are now global. Service providers – both traditional and MVNO – seek to:

- Serve their "local" clients as they travel abroad.
- Establish brand presence and new client bases beyond their "home" territory.

The ability to buy and use mobile access capacity which is the foundation of the MVNO model means it has also become the vehicle for international expansion.

THE REGULATORS

Regulatory bodies have had as much of an influence on the development of our telecommunications markets as those who drive the more obviously influential technology changes. From the deregulation of previously monopolistic models in the eighties and nineties to the allocation and specification of Radio Access Network spectrums, the ground rules determine what it is possible for a telecommunications provider to do.

The emergence of the MVNO, in Western Europe at least, has been influenced as much by what was not regulated as by what was. Because much of the model falls outside the traditional regulatory mandate, it has been possible for those who adopt the model to stretch it rapidly into innovative and unexpected uses.

In Germany, the Benelux, the Nordics and the UK, we have seen a "light touch" from telecommunications regulators who, in the early days, worked in favor of the MVNOs against a not surprisingly resistant MNO community. Paradoxically, the MNOs themselves are now benefitting from the very model they initially resisted, both through the opportunities to sell pure bandwidth and through the ways in which they themselves can establish and benefit from MVNO brands.

Although the telecommunications regulators in Western Europe helped establish a scenario in which the MVNO model could flourish, companies operating as MVNOs are by no means outside the normal laws of business. Their answerability in terms of consumer protection, for example, is strict – the recent intervention of OfCom in the UK in the case of Talk Talk is a good example. Ofcom were swift to act when customers were pursued for the payment of bills they had not received following the Talk Talk purchase of Tiscali.

As the MVNO model becomes central to the international expansion strategies of MNOs, however, it is what happens on the international and global regulatory stage which will influence pace and direction.

In Greece, for example, the local regulators do not yet allow MVNOs. In the short term, this gives local MNOs some degree of protection, but it is likely, that as the wider economic benefits of a more open model become more apparent, this will change.

In other markets, such as Turkey, Israel and Brazil, regulators have opened the market for MVNOs but in some cases under greater regulatory restriction than we have seen in Western Europe.

In all areas of business and commerce, we see regulatory activity needing to respond to accelerated changes in market behavior. This is driven by the two classic forces of our age – globalization and technology. With the MVNO it is no different. While it is essential to understand the regulatory landscape in all markets in which you seek to do business, Atos Origin expects to see rapid inclusion of MVNO models in pretty much all geographies over the next three-five years.

This expectation is based on two observations:

1. There are now enough examples showing how models which decouple service from network ownership create wealth, expand entrepreneurial opportunity, and provide greater range and choice of consumer services.

2. The ubiquity of IP networks (a "cloud for everything") coupled with public expectations of "any time, any device, any location" access make MVNO the only immediately obvious model for service development and sustainability.

NEW BUSINESS MODELS

To understand the new MVNO business models, it is important to understand the central role of IT – the success of any MVNO-based business depends of the efficiency and innovation with which technology is used. It is the technology which enables third parties both to access the telecommunications core and to develop new application-driven services. The use of VoIP is the most obvious instance, but this really is just the start – consider, for example, the rapidity with which GPS-based and mapping services are already beginning to feature in telecommunications and MVNO offering portfolios.

IT does not just underpin the customer experience. It is also the means through which MNOs and MVNOs are able to manage the essential collaboration which makes it possible for the business model to work. The MNO BSS (Business Support Systems) and network element resources can, for example, deliver essential customer usage information, which is not only critical in ensuring effective network operation but can also be used to create new services. Similarly, sophisticated MNO charging systems can become essential shared resources for managing the cost and revenue allocation resulting from new services and application downloads.

The current and future success of the MVNO model hinges on the quality and sophistication of business collaboration tools and systems. Mutually profitable revenue and cost sharing between multiple partners can only be assured if industrial-strength applications and collaboration infrastructure are in place. Get it right, and the permutations of the basic model are many and agile, as shown in Figure 2, below.

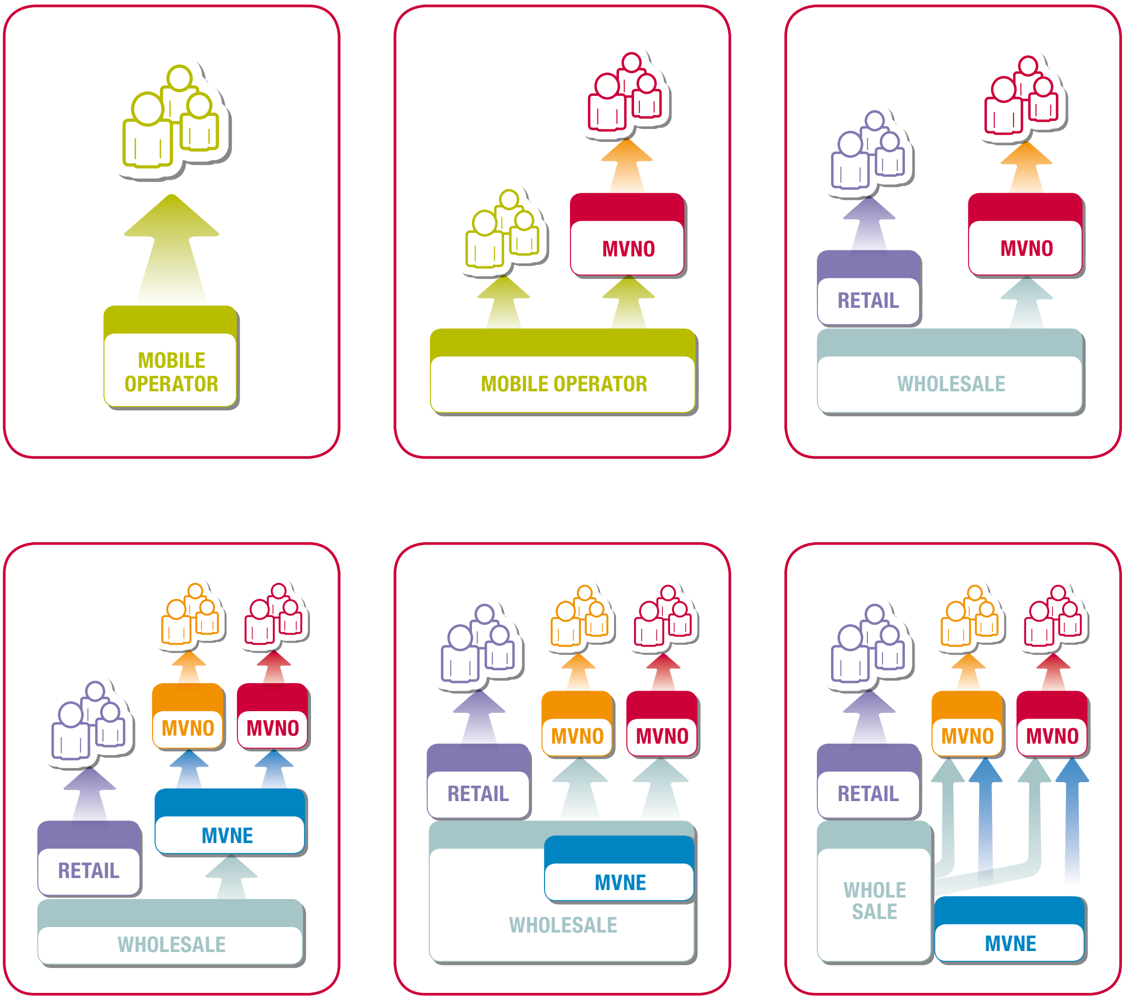

Figure 2: MVNO/MNO Engagement Models – integrated or independent MVNE platforms.

As well as showing different flavors of MNO/MVNO engagement models, the figure also delivers an approximate chronology of development.

TOP ROW

We see the initial move from a pure MNO to more MVNO-oriented model. At the start, the MNOs, like their fixed line predecessors, owned, served and billed their customers with the only real segmentation made between consumer and business markets.

When the very first MVNOs appeared, the simplicity of these static relationships for MNOs changed. When, for example, an MVNO requested change in a pricing plan, there was an immediate conflict of interest in the early days, as MNOs asked how changes in MVNO pricing would impact pricing practice amongst their own client base.

To overcome this conflict, the MNOs realized that it made sense to establish wholesale business operations, able to sell volume to both their own retail units and to their MVNO clients. This created clear models of revenue management for the wholesale business, and at the same time provided the means to analyze and measure “in house” retail business against the retail business of the new players.

In terms of wholesale provision, this evolution also had another important effect. By decoupling core network provision from the retail service model, it also allowed the MNO to set executable Service Level Agreements with both its own retail business operations and with new MVNOs. Previously, this had been rather more casual.

BOTTOM ROW

In the bottom left box, we see the first technical developments specifically geared to address the MVNO as a new and important part of the shared business model. Efficiency lies at the heart of profitable MNO/MVNO collaboration, and the burden on the MNO in managing shared BSS resources needed to be minimized in order to strip cost to the minimum. For this reason, the MNO began to develop an approach which allowed pure hosting of MVNO BSS functions, where this could be done with maximum effectiveness, or alternatively, hosted on a distinct MVNE platform, making zero demand on MNO BSS resources.

Although all models can and do exist concurrently, it is the final two which present the most accurate profile of today’s MNO/MVNO engagement models in action.

We see the MVNE platform either owned by the MNO or sourced from an independent third party specialist, such as Atos Origin. Where the MNO has invested in its own MVNO model, then there is naturally a desire to capitalize on the investment. There is a downside too, however for both MNO and MVNO:

- For the MNO, direct MVNE investment will generally be regarded as non-core. The struggle to keep the MVNE fit for purpose in such a rapidly evolving market also presents serious challenges.
- For the MVNO, the MNO-owned option also raises concerns about lock-in. The future state of MVNO business will be characterized by highly agile partnerships, capable of forming and re-forming as conditions and opportunities change. With the degree of volatility, a third-party MVNE platform can be seen as promising lower-risk and greater agility.

This agility becomes key as MVNOs seek to broker deals with multiple providers including, in addition to MNOs, cable and fixed-line players. This provides a powerful incentive to establish the capability of establishing different partnership combinations without the need to re-engineer the MVNE platform.

The technical and business model outlined above continues to evolve rapidly. A key driver in this evolution is the absolute need for creative partnerships in order to make ideas work. Success will hinge on the ability of multiple specialists to collaborate freely without compromising:

- Transparency of cost and quality of each contribution to the service.
- The ability to monetize not just high-volume low-margin service, but to be able to operate multiple niche services at higher margins.

Although the MNO contribution to the partnership may be seen in terms of basic commodity and function, in contrast to the more vibrant commercial proposition of the MVNE, success will hinge on the applications, technologies and, most importantly, attitudes to mutually beneficial collaboration. For this to occur, two modes of behavior must be in place:

- All parties must understand and leverage their core skills/values.
- The apparatus for "agile monetization and marketing" must be in place.

The more specialized the MVNO proposition becomes, the more critical it becomes to address the questions of core skills, and of investment in and management of essential but non-core application platforms. This same question also extends to the services which typically run over those platforms too. If, for example, a team of young entrepreneurs develop a killer idea for services specifically targeted at business school alumni, do they need to know how to manage the mechanics of billing and CRM?

As potential candidates for successful MVNO initiatives become drawn from a wider and wider range of specialist competences, the answer will increasingly be an emphatic "No": core execution platforms do not constitute core business for the MVNO – or for that matter – the MNO.

ULTRA-ELASTIC DEFINITION

Trying to excessively compartmentalize the MVNO market from now on, will not help. Players will to a large extent be able to make up their own rules as more and more flavors and specialties emerge. Take something as simple as mobile device distribution or the process of establishing and maintaining an application store, and ask where does a function/service like this best reside?

In reality, there is no right answer.

- There may be cases in which this service can best be retained by the MNO retail capability.
- There may be cases in which an MVNO can provide the service at lower cost and higher efficiency, especially, for example, with retailers via their own outlets.
- There may be cases in which neither MNO nor MVNO is either interested or positioned to provide the service, in which circumstances, the entire activity can best be entrusted to a third party specialist.

This is crude example, but it does take us back to the core principle for today's MVNO market:

Know what it is that makes you different, and delegate the rest!

This does not mean automatically avoiding activities in which others have already made their reputation. It does mean only doing so when there is a direct and demonstrable business objective in doing so – just think about:

- Google's continuing transformation from "search engine" to "full cloud office".
- Apple's continuing transformation from "geek chic" to app-driven "lifestyle everything".

Even though rigid definitions do not help, however, there is one rule which will increasingly hold true: while the "intellectual" assets of the MVNO will often help them achieve exceptional stand-out, the MNO is differentiated not just by network ownership but also by financial solidity.

Telecommunications companies have investment capability while MVNOs need to find engagement models with minimum capital investment. These different start points also act as a catalyst for greater inter-dependency. This is not, however, without caveat: when one party is rich in ideas and the other in capital investments, the possibility of shared risk/reward engagement will only bear fruit if, as cited above, both parties know the value of the other. This is also critical for any extra players brought into the business, including MVNEs.

DRIVERS AND INNOVATORS

Atos Origin does believe that MVNO/MNO models are at a point of genuine transformational change. This is due in part to the recent option of third party application platforms and their associated services provided by third party specialists such as Atos Origin.

But to get the clearest understanding of transformational influence, however, we must look directly at the consumer and enterprise customer, and to ask how the momentum of digital communications now lies more closely with those whose lifestyles are so heavily affected by them.

We have all become accustomed to the idea of an "app for everything" – some essential and some just playful. Rather than being astonished by the next new thing, we are more likely to ask why something which seems feasible to our highly sophisticated digital palettes does not yet exist.

When, for example, we know that relatively robust speech recognition software is available, and that automated machine translation is now more or less adequate, it does not take such a leap of the imagination before we ask how long it will be before instant audio translation will allow us to talk directly to people in different languages.

If this example is a bit "too far out there" in terms of expectations of communications technology, there are plenty of simple consumer-style questions much closer to our wallets and our lifestyles. These are not technology questions: they are about how we want to engage with our providers as customers.

The kinds of "consumer" questions being asked right now (and are likely to be satisfied by the savvy MVNO soon) include:

- » **ZERO LOYALTY** – can anybody offer me a deal which lets me change phone and provider at any time without punitive costs?
- » **SHRINKING CONTRACTS** – I don't want six weeks lock-in, let alone six months. Who can end the tyranny of extended subscription contracts?
- » **CLARITY PLEASE** – if I can more or less configure a car purchase click-by-click according to preferences and budget, why is my telephone contract such a labyrinth?
- » **EVERYTHING PLEASE** – look at me! I want voice services as part of a mobile internet package, and I want everything my social networks can offer – how can I get it all at clear and highly-competitive pricing?
- » **NO WAITING** – and when I do need to contact a service provider, who can give me instant response without demanding a premium rate for the support number?

If we look at questions like these (which people are already asking) and if we look at "what-ifs" of highly technologically-sophisticated users, we begin to paint the landscape in which collaborating MVNOs and MNOs must operate in order to achieve sustainable business success.

"Knowing the customer" takes on a whole new dimension with customers like these. For the MVNO and MNO this is no longer about tracking mobile behavior patterns and extrapolating the commercial implications for continuous business development. It is about learning how to think continuously at the limits of commercial, social and technological invention – and learning how to do so as members of agile and collaborative business partnerships.

CRITICAL INNOVATION

Now that the MNO has been liberated (sometimes unwillingly) by the opportunity to work in partnership with an increasing array of MVNO specialists, serious business and technological innovation becomes an imperative.

When triple and quadruple play from companies like Virgin and UPC becomes the norm, the consumer expects more than convenience.

- On the one hand, products and services must be constantly refreshed – and constantly refined to suit individual taste (often significantly influenced by social networks and peer-to-peer influences).
- On the other, the MVNO must be able to identify and exploit completely new opportunities. This is where the market is potentially redefined by new granularity of partnerships.

For this to happen, the systems on which you rely must be fit for their new purpose. Too often in the past, the limitations of heritage systems were accepted as a barrier to desired development.

Examples of how MVNOs are already beginning to exploit new opportunities either independently or in partnership are everywhere. Three examples jump off the page:

- The Enterprise as MVNO – Retailers, device manufacturers and social networks become their own MVNOs, integrating communications services into their core business propositions:
    - Carphone Warehouse has transformed from a device retailer into a compelling service provider – with specialist support partnerships managed through Geek Squad.
    - Carrefour now uses its own mobile service as an additional sales channel, trading traditional retail loyalty points freely for airtime and even using the device as a self-scanning tool for accelerated check-out.
    - Companies with extended field service operations, often in power and utility sectors, are already equipping technical staff with highly-sophisticated data and communication links back into corporate resources.
- Machine-to-machine – M2M accounts for higher and higher numbers of connected devices (traffic control, vehicle monitoring, climate/daylight adjusted services, etc). This is becoming “gold rush” territory for MVNOs, not because of traffic volumes but because of the sheer number of devices.
- Media companies – just as You Tube (and its successors) are redefining digital, so consumer hunger for mobile (or at least location-independent) content will create new breadth of opportunity for “media MVNOs” and “media/MVNO hook-ups”. This is complex if fertile territory, but because it “is possible” it will happen – digital rights issues, for example, must bow to popular reality.

In this rapidly expanding landscape there is, however, a paradox. Although specialism means that more and more MVNOs can take the stage – scale becomes ever more important. The real money is made in these business models when millions of micro-transactions can be aggregated and monetized. For this reason, any player attempting to compete without industrial-strength applications and processes will find themselves at a severe disadvantage.

We have repeatedly mentioned the dependence of active and creative partnership in this consideration of the present and future state of the MVNO, and this must also be considered in the context of innovation.

No MVNO can maximize success alone. Each MVNO (even those with the broadest and most self-contained service portfolios) is still only a part of the overall value chain. An MVNO will not, for example, sell value-added M2M services without direct and creative collaboration with utility, automotive or pharmaceutical companies.

Learning how to identify these opportunities and how to bring the respective parties together is going to become a sought-after skill. It will demand depth of industry knowledge in telecommunications and a corresponding range of interests in other verticals from both a business and a technology perspective.

Atos Origin is eager to act in this space, creating logical and process connections on the one hand, and asking how its own service capabilities, for example, in business process outsourcing can be turned to mutual advantage for all partners in these new MVNO-driven value chains.

FULL CIRCLE AND NEXT STEPS

We have looked at how the MNO/MVNO model has evolved over its comparatively short lifespan. We have looked at the essentially disruptive nature of this market and at how it responds better to open definition than to rigid classification. We have also asked what logic can best be applied when deciding which resources to own and operate, and which to buy in.

We have also placed considerable emphasis on the importance of contemporary partnership. In much business writing, the notion of partnership and collaboration has become tired and clichéd. This makes it difficult to treat the subject with freshness.

The best way for us to do this, is through actions rather than words. Atos Origin as an MVNO/MVNE solution provider and as a company focused strongly on high technology transaction services, is completely committed to earning profile in the new world of MVNOs. In our engagements to date, we have made shared risk/reward and metrics based on business-result founding principles, and this approach can *only* work if all partners understand both the combined business logic of the proposition and the individual contributions of each participant.

MOBILITY AS MAGIC

At the start of this paper, we played down the "Emm" in MVNO and played up the "Vee". As we conclude, we will consider the "Emm" for just a moment, asking what it is that makes mobility itself so much a part of this transformational business, societal and technology model.

The fixed line telephone connected places to places (and if you happened to be in either place you could make a call or answer it). Mobility changed that in more than one way. The very fact that the device could sit in your pocket didn't just make it portable – it made it uniquely personal too.

As the mobile world has increased in media-richness, in data access and in its ability to involve people in rich social and professional networks, the device itself becomes even more potent and private.

Couple this with the explosion of the Internet, not simply as an amorphous vehicle for information sharing, but as a viable framework for just about any social or business activity, and we get the real context within which the newly transformed MVNO model really starts to gain influence.

We looked at how service providers (cable and wire-line) could take advantage of MVNO strategies as a means of fast-tracking onto mobile platforms; we looked at how MNOs could similarly leverage MVNO models as a means of international expansion; and we looked at how innovative and entrepreneurial business and communications thinkers to take advantage of the model to the limits of their imagination, thanks in part to extensions to the model made possible by "neutral" third party MVNE platforms.

Combine all these opportunities, and the device in our pocket begins to open up horizons which are a genuine transformation not just of technology, but of our perception and expectation of technology.

As an openly interested party, these extended chains of contribution are stimulating Atos Origin to examine client perception and behavior with a new eye. The imagination and intelligence with which we explore these areas together with our clients in the telecommunications sector and beyond are now the most fertile ground for business development in any communications-related service business.

Gerben Menting
Gerben has deep experience in IT innovation as it impacts the telecommunications and media sectors. Since 2005 he has been focused on helping Atos Origin clients identify and exploit MVNO opportunities, and has worked on major projects with some of the foremost European MNOs and MVNOs.

His perspective is global, and he has worked extensively in telecommunications business development for the company across Europe, Latin America and Asia Pacific.

Gerben currently leads the company's global MVNO initiative.

For more information:
Please contact
Gerben Menting on
+31 653862295 or email
gerben.menting@atosorigin.com

About Atos Origin

Atos Origin is one of the world's leading international information technology services companies. Its business is turning client vision into results through the application of consulting, systems integration and managed operations. The company's annual revenues total more than 5.8 billion euro and it employs over 50,000 people in 40 countries.

Atos Origin is the Worldwide Information Technology Partner for the Olympic Games and has a client base of international blue-chip companies across all sectors. Atos Origin is listed on the Paris Eurolist Market and trades as Atos Origin, Atos Worldline and Atos Consulting.

For more information: **www.atosorigin.com**