
Chapter 14: NGN Strategies for Alternate Network Operators

Introduction

This chapter is about facilities-based alternate network operators (alt-nets), and how they should assess the challenge of the next-generation network. Should they invest to remain a complete facilities-based carrier, or should they develop their position in value-added sectors, and perhaps buy-in more commodity network services?

Following on from the discussion in chapter 6, we first take a look at the standard segmentation of the telecoms market, identifying the needs of each segment, and the opportunities and difficulties of doing business there. Secondly, we review the situation alt-nets currently find themselves in. Does current market positioning make sense, and does it constitute an optimal business strategy for going forwards? Thirdly, we look at how needs are evolving across market segments, and what capabilities the next-generation network will bring to the table. Fourthly, we look at the value chain in an NGN world and ask where alt-nets could and should play. This is a discussion centred around the search for premium returns, examining the opportunity costs of prospective investment decisions in an environment dominated by the incumbents, and with many different kinds of players contesting key market areas. Finally, we develop a framework of viable choices which can be used to make decisions.

Market Segmentation and Segment Requirements

The usual segmentation of the telecoms market is as follows

- Multinationals
- Large enterprises
- Medium enterprises
- Small enterprises
- Consumers
- (Wholesale).

There is often a more detailed segmentation of the business segments, large and small, into vertical markets such as finance, technology, retail, etc. In this chapter, the focus will be on business segments considered horizontally. The next chapter looks at the consumer market. There is also the inter-carrier

wholesale market, which is often a significant part of the business by revenues, mostly for commodity services. In what follows, it will mostly be discussed from a buyer rather than a seller perspective.

In the past a company's IT needs and voice/data communications needs were considered largely separately, but with increasing technology and service convergence this is less and less true. We now talk about ICT - Information and Communications Technology - as the basis of the customer proposition.

Business customer requirements for a *holistic* ICT solution create stresses for the existing value chain. Carriers, while expert in networking, typically know little to nothing about IT while IT systems houses and systems integrators typically do not own networks. This creates a 'contested space' where the two sets of providers overlap in providing ICT solutions. Carriers are conscious of coming off worse, as network services can more readily end-up as barely-differentiated near-commodities. Premium margins then appear to accrue to the IT-based systems integrators.

A large part of the recent history of carrier business models is an attempt to escape this commodity trap. The NGN is widely seen as a multi-layered platform which can potentially bring more premium value back into the carrier space. Whether carriers are up to the task of exploiting it in this way remains to be seen.

Multinationals

Multinationals tend to work with bigger carrier players, and because of their buying power and substantial in-house integration resources, are often commodity purchasers of basic connectivity services at deeply discounted rates.

More recently, many multinationals have teamed up with global systems houses such as IBM Global Services and EDS. The buying power exerted by these systems integrators is, if anything, even more powerful than that due to the multinationals themselves. Carrier margins are therefore further squeezed.

While there are reasons to go after this segment of the market - mostly to do with the sheer size of the business even at low percentage margin - it tends not to be a major priority for alt-nets, particularly if the alt-net is only national in scope.

Large Enterprises

Large enterprises have been a 'sweet spot' target for most carriers. They are few enough to justify dedicated account teams, complex enough to require customised and bespoke solutions, and rich enough to pay for them. Consequentially the margins can be good if the proposition is right.

The large enterprise market segment exhibits the already-mentioned contested space between carriers and systems integrators. Carriers like to talk about their partnerships with preferred systems integrator collaborators. The truth is, this largely reflects the weakness and difficulty carriers experience in developing competences in IT systems and professional services themselves. However, these are just where the margins are, so carriers never give up hope of forward-integrating into these areas. The opportunities and difficulties in so doing will be discussed in more detail later in this chapter.

SMEs

A 'small enterprise' is usually one without dedicated IT/technical staff: you deal with the owner/manager who is often completely non-technical. A 'medium enterprise' is large enough to have IT/networking staff, albeit only a few of them: you talk to a technical person who understands your portfolio.

Small and Medium Enterprises are often lumped together as 'SMEs': they have typically proved hard for carriers to address. There are so many of them that dedicated account teams are impossible. They cannot afford customised products wrapped around with significant systems integration. But it has been difficult for carriers to design and deliver standard product building blocks which can be cheaply configured in this sector. The problem is often handed across to systems integrator (SI) partners and value-added resellers (VARs) who specialise in cost-effectively addressing the needs of these customers. The VARs succeed because they are customer-solution centric, and can construct their solutions from a wide range of suppliers.

There was a time when it was believed that Internet self-service was the answer to cost-effectively addressing the SME sector, but a scalable strategy has proved elusive. ASPs like salesforce.com have had niche success (also with larger customers) while some ISPs have created highly automated hosted services for SMEs who are sufficiently technical. Attempts to broaden the offer continue, with more advanced self-service portals. ICT services are not books, but the example of Amazon.com is never far away. It has to be said that the Internet self-service portal has had considerably more success as a way to smooth interaction with partner VARs.

Consumers

The consumer sector is characterised by the centrality of access. In pretty much every developed country a regional or national incumbent monopolises the ownership of copper loops to the household. Usually, the only competition in providing a two-way service mechanism is a cable company. Satellite of course provides an excellent one-way service, as Sky and DirecTV have proved, but this is not economic for two-way services.

Wireless (WiMAX, WiFi) is also much discussed, but technological immaturity, spectrum scarcity and deployment costs inhibit this alternative to date. It may turn out to be the case that the WiMAX 'sweet spot' is actually as a kind of big brother to WiFi in campus applications for businesses in fact. WiMAX is distinguished by having better QoS, a better hand-off architecture (802.16e) for roaming and a longer range than current WiFi.

Finally, 2G and 3G mobile technologies have provided a way to reach consumers, but the barriers to entry for further cellular operators in most countries are absolute, with no further licences being allocated. MVNO opportunities are still there, limited by the capabilities and cost-economics of the 2G/3G mobile networks. In particular, cellular technologies have not proved a cost-effective way to deliver broadband services to homes to date.

For a long time, the consumer sector was written off by alt-nets. Incumbents held onto control of the local loop, and despite unbundling attempts by the regulator, wholesale products were unattractively priced and hedged with bureaucracy, increasing transaction costs. Alt-Nets abandoned the consumer markets and searched for richer rewards with business customers.

However, in some markets, notably the UK, the regulator has pushed hard for a more competitive playing field. Customers can now make a one time decision as to who will carry their calls, and the incumbent, BT, is then obliged to route the call via that operator. This is called 'Carrier Pre-Select' (CPS) and obviates the need for prefix-dialling or special boxes inserted into the line between the customer's handset and the phone socket. Wholesale costs have been addressed through lower line-unbundling charges, and to enforce equality of access, BT's access organisation has been reorganised into a separate division called Openreach.

As a result there has been real competition to BT both in traditional POTS via CPS and in broadband provision. In the later case there are opportunities both in reselling BT's wholesale broadband product,

and through line unbundling, with the alt-net putting its own DSLAM into a BT exchange, or at a nearby site. The resulting price competition is excellent for the consumer, but does little to provide encouragement to potential market entrants seeking premium returns.

There is a deeper question as to whether there is any scope for premium returns in the consumer market through providing communications services alone. There is a view that the real winners will be those companies who own rights to content, and can deliver it across two-way networks - a disturbing prospect for those carriers with a consumer focus but few content-rights. We examine this in the next chapter.

The current situation facing Alt-Nets

Most facilities-based alt-nets own a national backbone fibre infrastructure. Often this was built out in the 1990s during deregulation, or around 2000 in the Internet boom for the second-generation of alt-nets. Fibre facilities means duct, usually buried, together with multi-stranded fibre bundles. The fibre itself is usually expensively optimised for low-dispersion in the key frequency bands. This permits the very short laser pulses involved in 10/40 Gbps transmission to propagate long-distances without distortion.

However, selling duct space or dark fibre is a low-return business, with only a few players. Most first-generation alt-nets of the 1990s invested in optical networking equipment to light their fibres with many simultaneous wavelengths (λ s). Selling wavelengths, however, is also a low-return business. To parcel bandwidth more finely, the alt-nets next invested in SDH networks - which were state of the art in the 1990s - and then invested further in Frame Relay and ATM networks to address the business VPN market. And few first-generation alt-nets were able to resist the lure of circuit-switched voice services, when prices were so artificially high a few years back. Add in an IP/Internet overlay and it's easy to see why so many of the first-generation alt-nets ended up with networks which were carbon copies of the incumbents - except not at scale. Chapter 2 surveyed these various network layers.

Despite the shorter time-period in which first-generation alt-nets have been active, probably less than twenty years, there has been ample time for their legacy BSS and OSS systems to have clumped up, with a tangled web of ad hoc integration linking them together (chapter 4). For alt-nets in this predicament, the challenge of an NGN transition can seem insurmountable - the imminent capital costs of a major network, systems and process transformation balanced against uncertain revenue streams at the far end to pay for it. Even the incumbents, with their vast resources, struggle to make the NGN business case really fly.

There is however a second generation of alt-net. These small, nimble players were set-up during the Internet boom and prided themselves that they were IP through and through. Without the burden of legacy, their challenge is to make the right decisions about NGN investment as part of the continuing evolution of their business models.

The second-generation IP-oriented alt-nets have not been conspicuously profitable to-date. Their commodity services, including ISP services and Internet access, Ethernet transport and leased-lines, have been subject to intense price-competition in the oversupply situation following the Internet boom. This problem has persisted in large part due to the well-known exit barriers in telecoms: largely sunk costs in network infrastructure combined with generally low operational fixed costs, and very low marginal costs.

The continuing wave of consolidation in telecoms is removing much of this overhang of capacity, and provided they can get their business models correct, the future looks considerably brighter for the second-generation IP-oriented alt-nets. Most likely they will either be acquired by aspirational generalists, or find a niche they can monopolise through specialisation, strategies discussed in chapter 6.

Why invest in a next-generation network?

Why would carriers ever invest in a next-generation network? Usually companies invest in new technologies either to lower costs, or to introduce new products (and therefore revenue streams), or ideally both. There is a case for NGN investment under both of these headings.

Invest for cost savings through NGN deployment

A few years ago, Broadband-ISDN promised significant network consolidation savings by running all services on a unified ATM network, with service adaptation at the edge. This vision has now been taken over by IP/MPLS networking, with service adaptation at DSLAM or MSAN-type edge devices. It isn't just the reduction in numbers and types of device due to standardising on just a few protocols. The new equipment is much more intelligent, and therefore many functions of configuration, provisioning, operational assurance, performance monitoring and even repair are far more automated. The resulting capability improvements in Operational Support Systems can sharply reduce labour costs once the transition has been accomplished.

Invest for revenue opportunities through 'new wave' business services

The so-called 'new wave' products which will replace the fading voice revenues have proved elusive to define in practice. In the traditional telco space, the central connectivity services of leased-lines and

Frame Relay/ATM VPNs have their IP counterparts in IP VPNs. Layer 2 VPNs using some combination of Ethernet in the access and Ethernet over MPLS in the core are also becoming increasingly popular [1]. The new-wave products are better, but customers expect to see price reductions to motivate their adoption. Since the products are standardised, there is little opportunity for significant differentiation - competence was a differentiator when the industry was on its learning curve, but the advantages are less clear-cut now.

Voice is in transition to VoIP, but it is less clear that the new product features enabled by IP - which include enhanced bandwidth for better quality, unified messaging, and video-conferencing - are meeting huge demand from business customers. There may well be opportunities in the future, but, it is difficult to see this as an opportunity for premium returns in the immediate term.

Fixed-mobile convergence has been a major industry theme over a number of years, particularly as enterprise WiFi has been rolled-out. With dual-mode handsets this seems to offer the prospect of a dramatic reduction in enterprise cellular costs. If seamless handover is a requirement - except in niche applications such as warehousing, most people think it is - then the voice service call control has to be able to manage both the cellular radio access network and the WiFi access network. This *will be* an IMS core competence: when the standards are in place, and when IMS is deployed. In the meantime, there are some interim solutions from IP PBX vendors, but it's awkward. In any case, the WiFi technology is not yet stable and effective solutions have to span services from fixed, mobile and enterprise suppliers. And campus WiMAX promises to add a further ingredient to the mix.

In the eBusiness space, the dominant trend is the ever-increasing role played by Internet technologies. In the beginning there was only the ability to put up a 'brochure-ware' website and invite business to the telephone call-centre. Then websites became transactional and we saw pure eBusinesses such as Amazon, Yahoo, Google and eBay. Call-centres became contact centres and offered the customer a combination of voice, email and instant-messaging, as well as providing the contact centre agent with the context the customer had experienced during their visit to the company's website.

Internet technologies were also behind the revolution in internal enterprise computing. Monolithic applications interconnected by expensive middleware could be replaced by application components sitting on standardised .NET or Java EE application platforms. The standardisation of web and application servers and databases has opened-up outsource opportunities for the Application Infrastructure Provider (AIP) which can operate these platforms in data-centres on behalf of the enterprise. The NGN architecture

incorporates these web services platforms in its upper layers, allowing carriers to productise these advanced hosted services within a generic service management and billing framework as part of their future portfolios.

Incidentally, the standardisation of the interface between web service applications and thin clients (browsers, with capabilities enhanced by new technologies such as Ajax - Asynchronous JavaScript And XML) has re-energised the remote provision of application services by Application Service Providers (ASPs), whose time may well be about to come again. This is part of the web 2.0 phenomenon, discussed in chapter 4.

Will NGN investment provide any return for business services?

Based on the above review, it may be concluded that the NGN IP transport services *are* valuable to customers, but are unlikely to provide premium returns. Meanwhile, voice prices seem set to reduce further in the era of VoIP, and while the networked applications platform business looks very promising, the advantages may go more to the systems houses, which understand IT, than to the carriers. To put it more bluntly, the NGN may turn out to be a Trojan horse for carriers, working in reality to the benefit of the systems integrators.

But what about IMS? Surely this is the new engine of value-added services for carriers, alt-nets as much as incumbents? As discussed at length in chapter 2, the original driver for IMS came from the 3G mobile industry, where they had found that rolling services out in isolation meant they had to implement service management functions such as announcements, QoS reservation, application interfaces and billing over and over again, creating needless additional costs and delays. Why not extract the common features into one middleware architecture and allow new services to invoke common functions through standard interfaces? The rationale for IMS.

The new services people were thinking of were mostly consumer ones: push-to-talk, video-telephony, video clips, instant messaging, music downloads and so on. Some of these also have business applications, but the business mobile market is more focused on services such as these:

- a subset of PBX-like voice services,
- horizontal business applications such as email,
- personal organiser functions synchronised to the desktop,
- mobile browser access to the company intranet,

- mobile browser access to the public Internet.

The scope for an endless sequence of new session-oriented business services is not obvious. If anything, business mobile has already commoditised around the list of services above, none of which exploit IMS.

When it came to re-thinking IMS for the fixed NGN project, the *utility middleware* functions of IMS were what really attracted. The real novelty was the ability of IMS to be extended to a variety of non-cellular access methods including DSL broadband, WiFi, WiMAX and cable. There has, however, been little sign of IMS-powered innovation in the kinds of services business customers might be prepared to pay for.

The sorry conclusion is that IMS will power a number of future business services, but the elusive killer-application is still just that.

The business value-chain ecosystem facing the Alt-Nets

The key to understanding the emerging telecoms value chain, and the options within it open to the alt-nets, lies with the ever-advancing development of ICT service possibilities and the consequential evolution of customer requirements. Companies know they have to create a secure multi-service networked applications infrastructure, and they need help with a list of concerns which can stretch like this:

- Converged intra- and inter-site QoS-enabled communications network
- Voice and multimedia capability (VoIP, wireless, mobile + integration)
- Evolution of IT platforms to web architecture on Intranets
- Contact Centres, Internet eCommerce, Extranet and Storage solutions
- Application Infrastructure Hosting (Java EE/.NET)
- Use of ASP-provided application services, or managed outsource
- Security - all aspects
- Performance and cost monitoring linked to SLA management.

The challenge for alt-nets (as for incumbents) is to put together a collection of hosted products which can address each of the business needs on the above list. In principle, a carrier can do it all, but the case has to be made as to why a carrier-solution is better than an enterprise doing it in-house. One argument is flexibility.

An *a la carte* list like the above can be read as a static set of requirements. But businesses face an increasingly changeable environment. Just putting in place a ‘solution’ and letting it run ‘ballistically’ over the next five years won’t work. What is needed instead is the ability to set up a solution on day one, and then modify its attributes with low cost and effort on a day-to-day basis.

This need for flexibility creates a new emphasis on the customer *experience* of the service, and for a sophisticated set of instruments and controls for ‘driving’ it. Carriers cannot achieve this level of responsiveness without putting in place a new generation of Business and Operational Support Systems (BSS/OSS). As companies like Vanco have shown, this can be a key competitive differentiator. It is all very hard for a first-generation alt-net choked by legacy systems and processes.

Companies have a choice of who to do business with. They can choose to stay in-house or deal with systems integrators, who can provide integration skills through their professional services arms, and who can run the company’s application and network services via a managed outsource. Companies can also do business directly with carriers who own networks and wish to offer managed services. And behind both these managed offers is the world of vanilla network products - commodity already or rapidly commoditising. The result is a value chain as shown in figure 1.

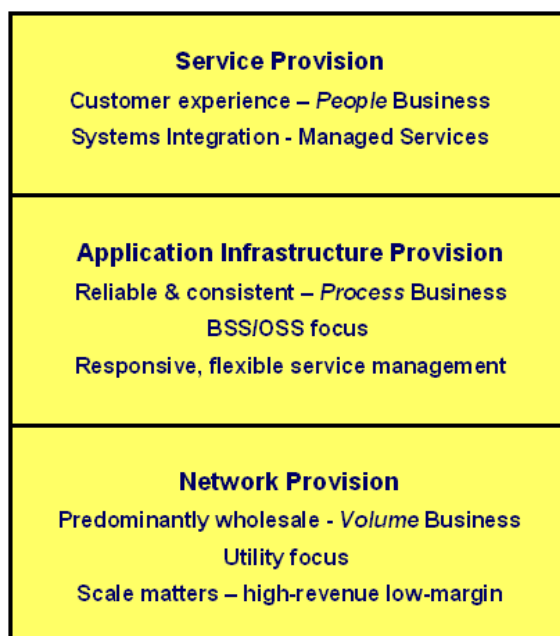


Figure 1. The developing telecoms value chain

In this value-chain, we see a process of commoditisation growing from the bottom, as network and application platform components become more standardised and ‘plug ‘n’ play’. We see a growth of the premium managed service market at the top, as more powerful and extensive components, many due to the NGN, drive more sophisticated services.

Incumbent carriers have a reflex to preserve their historically successful vertically-integrated model. BT is a case in point, with the network assets concentrated in the BT Wholesale division, managed services for consumers and business in BT Retail, and BT Global Services providing business services, integration and ICT solutions. However, as we look more closely at the services provided across the value chain (figure 2), the disadvantages of vertical integration become more apparent.

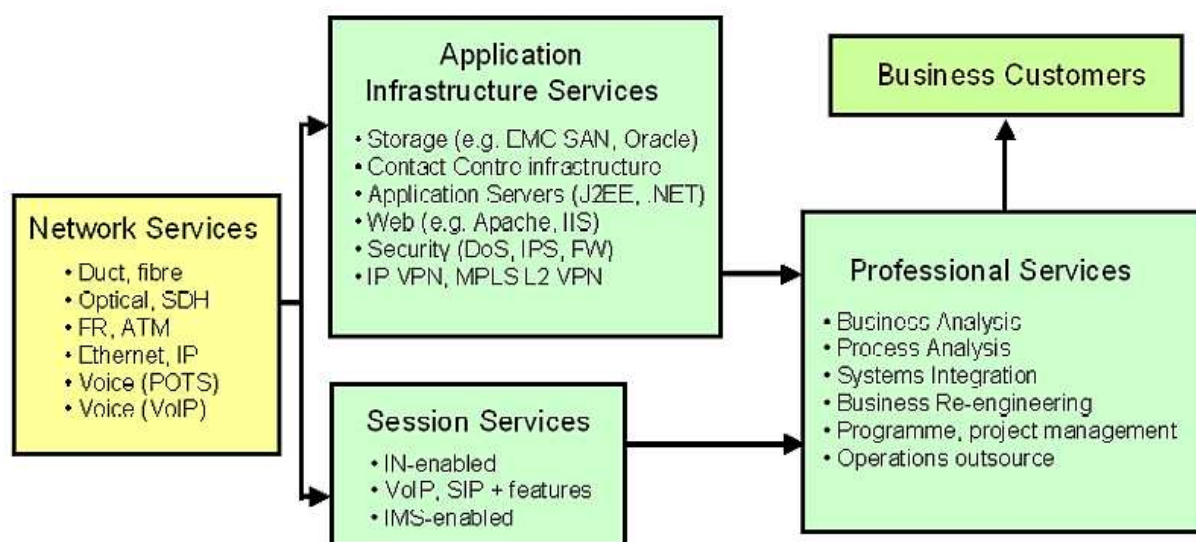


Figure 2. Business Services in the ICT Value Chain

The Network Services utility business on the left is a commodity, scale business, and arguably not best-provided by smaller alt-nets in the presence of a viable wholesale market.

There is still scope for differentiation in Application Infrastructure Provision, Managed Connectivity and Advanced Session Services. These services are still in technical evolution, and possess many attributes where carriers can differentiate on the basis of technical competence, service quality, ease of use, flexibility and manageability, in addition to price. However, there is a general trend towards lowest-common denominator commoditisation over time. Connectivity products such as BGP/MPLS IP VPNs are well down that road.

The Professional Services business also offers scope for differentiation. The ability to engage with a customer and put together an effective ICT solution integrating both in-sourced and out-sourced components requires competence in many skills. The difficulties in achieving a reputation for consistent high-performance lead to premium returns for those who can achieve mastery. Since different verticals often have distinctive requirements, there are many opportunities for niche positioning.

Carriers have historically targeted the ICT services area as the holy grail of their future business. However, the skills needed to be a leader in what at heart is a people business are so discordant with the routinised process skills needed to be successful in delivering managed platform services that success has generally eluded them.

The situation facing carriers is made worse by the presence of a large, active and skilled professional services industry with players ranging from global corporations - IBM Global Services, EDS, Accenture and the like, through to second tier pan-national systems houses such as LogicaCMG in Europe down to national or regional Value-Added Resellers (VARs). These organisations know how to manage consultants, developers and integrators and are as familiar with IT systems from vendors such as Oracle, SAP and Microsoft as they are with telecom products from vendors such as Cisco, Avaya and Siemens and network products from carriers. And none of them have to operate and maintain networks. The end-game may well be a market structure with two main camps as follows.

The first camp would be a commoditised *platform* business offering facilities-based services comprising all the layers envisaged in the NGN architecture (including IMS and Java EE/.NET platforms). This would be the domain of larger facilities-based carriers, chapter 6's generalists.

The second camp would be the *managed application services* business offering a mix of in-sourced and out-sourced application services tailored to the sector and business-specific needs of the client. All (commoditised) platform services would be bought in and packaged to form the solution offered to the customer. This would be the domain of the systems integrators, VARs and ASPs.

However, we are many years away from such a clean 'dis-aggregation' model. We should include amongst the factors impeding such a transition both the historical inertia of large vertically-integrated incumbents, and the immaturity of standards and products - especially at the higher NGN layers of IMS and web services. These complex, not-yet-commodity technical components offer opportunities for

platform-based carriers to excel in bringing them to market in a customer-friendly form, and will resist commoditisation for many years to come

As a consequence, there will be significant opportunities for carriers in general, and alt-nets in particular, to bid for the contested area of value-added services in the next period. This creates a significant challenge for each alt-net as to where to focus its investment priorities - what should they buy, what should they make, and what should they sell (and to whom).

A framework for market focus and some optimal scenarios.

In telecoms, incumbents are frequently former monopolies who, despite deregulation, still maintain a dominant hold on the market, with market shares of 60% or higher overall. This leaves the remaining small slice of market pie to be fought over by all the alt-nets.

In the earliest stages of deregulation, back in the 1990s, telecoms was often a duopoly, or a restricted-entry market. This encouraged the first-generation alt-net to be a full-portfolio generalist copy of the incumbent. The sub-scale inefficiencies of the alt-nets in this mode were somewhat compensated by regulation: the alt-nets under-priced the premium charges of the incumbent by 10-15% and were still able to make a profit despite their inefficient cost base. The regulator prevented the incumbent from taking its minnow-sized competitors out.

The Internet boom encouraged a lot more national infrastructure build, bolstered by the belief that IP networks would soak-up exponentially-increasing eBusiness traffic and revenues for the indefinite future. Investment was also encouraged by the belief that the incumbents and first-generation alt-nets, hampered by their legacy networks and systems and their 'bell-head' mindset, just wouldn't 'get it' and would prove to be weak competitors. We all know where that ended up.

The market structure theories of Sheth and Sisodia [2], discussed and summarised in chapter 6, predict that given a market dominance of around 60% by an incumbent, there may be room for only one further generalist, and after that the remaining pie is too small. The only market strategy which works for everyone else is to be a specialist in a sector defined by geography, customer type or product type. In such a niche, the generalist can be out-performed and with care a niche monopoly can be established. To hold onto this market beachhead, Sheth and Sisodia recommend the niche player to shun fixed costs, to stay flexible and use whatever tactics are available to lock-out competitors. This is good advice for most business-oriented alt-nets going forwards.

A convenient framework to analyse these niche opportunities is Michael Porter's five forces model [3]. As a reminder, Porter analyses the situation of a company in its environment in terms of the following *five forces*.

1. Competition between companies within the sector (on price, quality or service).
2. New entrants who could take market share or depress prices.
3. Substitute products, and opportunities via complementary products.
4. Supplier power utilised by vendors to extract value.
5. Buyer power, e.g. demand for deep discounts by customers.

Figure 3 illustrates a (different) five-step model demonstrating how a typical alt-net would use Porter's framework to help plan its business future as a premium-return niche-specialist, based on [4].

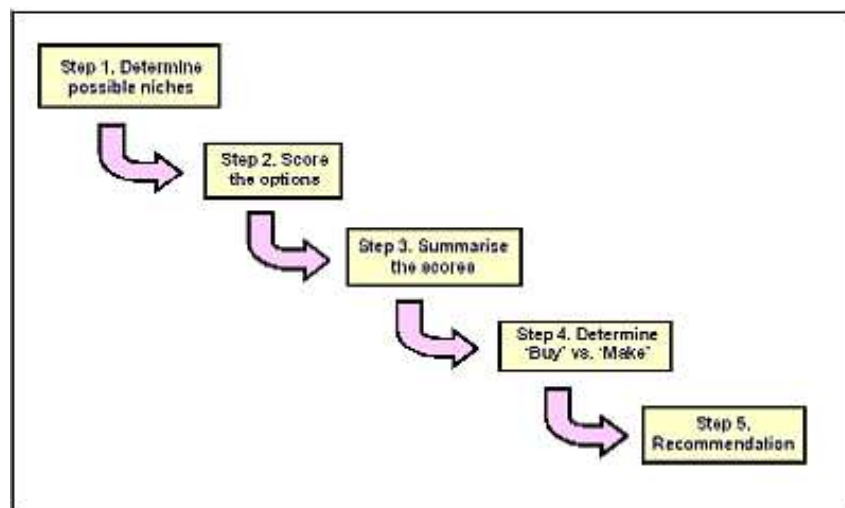


Figure 3. Find your niche

Step 1. Determine possible niches

Given the inventory of assets, products and customer relationships which the alt-net has at the moment, what geographies, customer-segments and product-areas could the company plausibly play into? For the sake of this example, we will assume:

- A national geographical play.

- Possible customer segments: large, medium and small businesses plus a wholesale offer to other carriers, and a retail service to SIs and VARs.
- Possible product-areas given by the following table.

Possible Product Areas
1. QoS IP network
2. VPN (various types - L3/L2)
3. IP Centrex (hosted VoIP package)
4. Fixed-mobile convergence package
5. Hosted Contact Centre
6. Hosted web/application servers
7. Hosted storage
8. Hosted eCommerce package
9. Hosted (vertical) applications
10. Security products (MFW, IPS, AV, audit)
11. Performance, cost monitoring packages
12. Advanced (self-service) management systems

Table 1. Product Areas to be analysed using Porter’s framework

In practice, the granularity of analysis need not be as fine as table 1. Products can be clustered in groups which are offered together. The activity of clustering is equivalent to defining the separable markets which constitute the possible available niches. For example, providing high-quality VPNs with sophisticated management and reporting functions has constituted a horizontal niche for some companies at some times. Contact centres, which are complex to set-up and integrate, can also provide a niche for specialists.

Step 2. Score the options

For each customer segment (and geographical area, if there is more than one geographical option) assess each product area above under Porter’s five headings - both examining today’s situation, and the future (three-year) trend (figure 4).

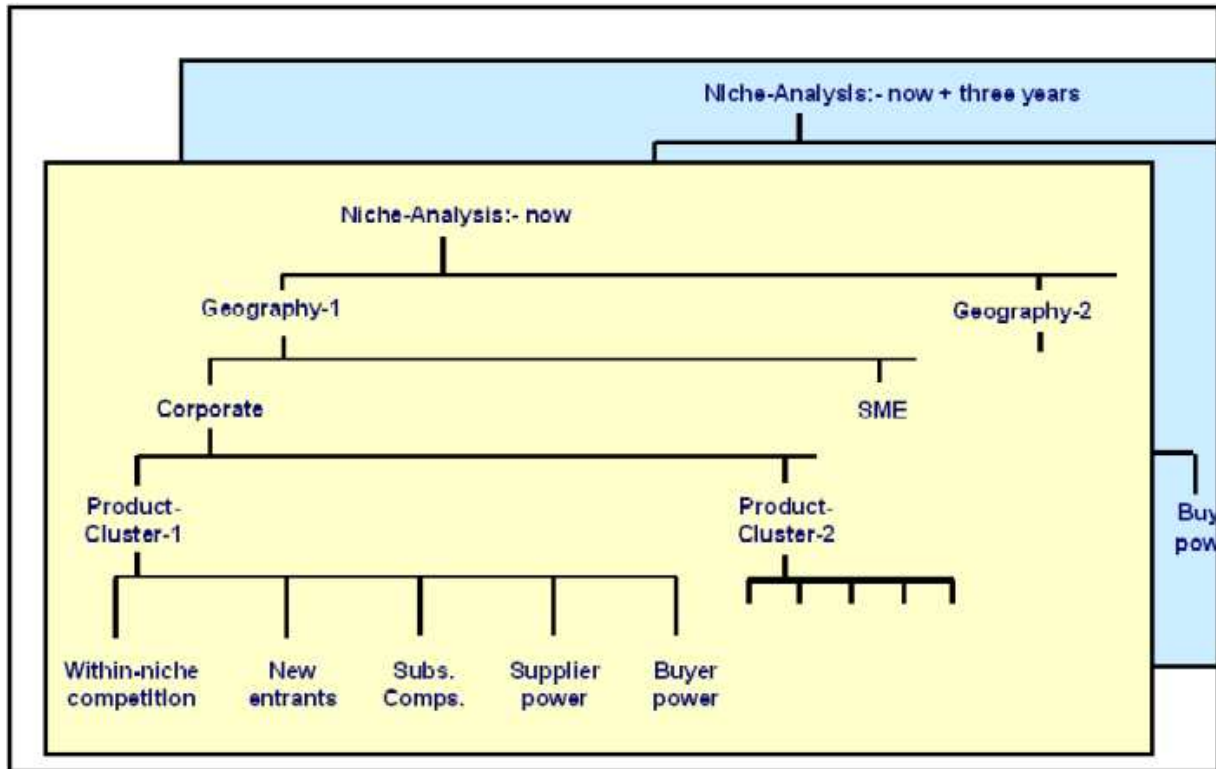


Figure 4. Niche analysis structure

An excellent template for this is described in the appendix to chapter 11 of [4] which demonstrates just how many issues can usefully be considered under each of Porter’s five headings. Table 2 shows a suitable format, which is re-used in step 3. In step 2, detailed answers should be written in the second column to questions under each of Porter’s headings in column one (which are summarised into *low*, *medium* or *high* risk in step 3, as we shall see). What are the questions we should be asking under each of Porter’s heading? Let’s try to list some of them.

Competition between companies within the niche sector (on price, quality or service)

Who else is playing? How stable is pricing in this niche and how are prices likely to be set? Are there few or many players? What are the cost bases of the different players? What are customer switching costs? What is the timing and transparency of the sales cycle (which could facilitate or impede price competition). Are you competing on price, quality or service, and are there opportunities for horizontal differentiation (varying optional discretionary attributes) and/or vertical differentiation (varying core quality attributes)?

New entrants who could take market share or depress prices

Is there a learning curve for this product, and where is the alt-net on this curve vs. possible new entrants? Are there regulatory issues which could admit or impede new players? Would existing players punish new entrants, for example by waging a price war? How important is brand and/or scale for success in the niche? Is the niche broadening in such a way that it could fuse with other product areas, bringing in new entrants from that space?

Substitute products and opportunities of complements

Are there substitutes or complements at all for this product area? What is the price sensitivity in the niche, i.e. if prices change, do customers rapidly seek substitutes or are they relatively insensitive to price? Are there prospective exogenous changes which could stimulate or damage demand in this niche?

Supplier power - vendors in a position to extract significant value

Are there dominant brand vendors who provide significant value but charge premium prices which it is difficult to pass on? Could suppliers forward-integrate into your area? Could you be easily dropped by a dominant supplier in favour of a competitor?

Buyer power, e.g. demand for deep discounts by customers.

Could your prospective customers relatively easily do it themselves, or buy from allied sectors (e.g. VARS)? What is the granularity of sales (many small vs. few large)? This may affect buyer power. Are you selling to many customers, or just a few? If the latter, they may have market power in lowering prices. Are relationship-specific assets involved which can be used for 'hold-up' by your customer to leverage your prices down? Are your customers likely to be price-sensitive?

As a strategic marketing activity, the alt-net team should first define its grid of relevant attributes as described under each of the five force headings above, put together a list of possible niches, and then score each of them using a grid along the lines of table 2. It would be a good idea to have a column for the immediate situation, and another for the 'three-year out' situation.

The value of this exercise is predominantly the process of asking and answering the questions, to get a feel for the opportunity to colonize this geography-segment-product niche at this time and defend it, in order to make premium returns. After all, the next stage is simply going to summarize the team's niche assessment into one word.

Step 3. Summarise the scores

Once the detailed grids have been completed, they should be summarised for each niche according to table 2 (completed with an assessment for BGP/MPLS VPN). For each prospective niche, for each of the five forces, we estimate the consolidated risks to our ability to make premium returns.

<p align="center">Niche Description</p> <p>Time = 2007</p> <p>Geography =UK</p> <p>Segment = Corporate</p> <p>Product = BGP/MPLS VPN</p>	
Five Force Category	Risk to Premium Returns
1. Competition within niche	<i>High</i>
2. Possibility of new entrants	<i>High</i>
3. Substitutes and Complements	<i>Medium</i>
4. Market power from suppliers	<i>High</i>
5. Market power from buyers	<i>Low</i>

Table 2: Five Force Niche Summary Assessment

You can disagree with the example assessment, but based on table 2, the opportunities to make good returns in this already-overcrowded market do not look promising. If it is worth entering, it may be as a ‘table-stakes’ enabler for other products where the opportunities are better. Or there may have been a way to tailor the product for a vertical market in such a way as to improve the scorings.

I emphasise that this exercise must be evidence-based. It is important to *itemise* competitors, possible new-entrants, suppliers, customers and threats from other substitute products - not just guess from gut feel. Once this exercise has been completed across the relevant niches, it should be possible to identify the areas where opportunities exist, and this constitutes the basis of a ‘go-to-market’ strategy.

Step 4. Determine 'Buy' vs. 'Make'

The decision to buy components of a product rather than provide them in-house implies that the market-supplied component is at least as cheap, as high-quality and as reliably available as that which could be provided internally. These qualities rely upon the existence of a stable reasonably-competitive market.

Some products in the telecoms market are effectively commodities: examples include leased lines at rates from 2 Mbps up to high-speed SDH links at STM-4 (622 Mbps) and beyond. In the UK copper loops have been unbundled, finally at competitive rates, through intense efforts on the part of the regulator.

The monopolistic power of the incumbent implies, however, that when regulation is light, key services will be found to be simply unavailable on the wholesale market, or over-priced, or subject to major transaction costs due to gratuitous bureaucratic obstacles.

For example, in theory it would be possible to lease a national fibre infrastructure from a third party. However, if the alt-net already owns one, its sale value is unlikely to be very large in today's over-supplied market, and continuing to operate it is most likely cheaper than leasing comparable facilities from anyone else. Naturally a more detailed analysis would have to be carried out. Access circuits, where a price-competitive market obtains, may be a different matter, as the alt-net is unlikely to have extensively built-out such a network itself to all points where it needs access.

When it comes to the elements of the next-generation network itself - layers such as the scalable QoS IP network, the IMS layer, advanced application platform hosting, the make vs. buy decision becomes problematic again. It would be best to buy the standard component services on the wholesale market from the incumbent, benefiting from its economies of scale. However, the regulator is likely to adopt a very light-touch with the incumbent over the next few years, as the latter will have made the case that such a risky investment needs some guarantees of return. The wholesale market for services based on these NGN platform layers is therefore likely to be 'difficult' for alt-nets in the near to middle future.

The product mix underpinning the niches of choice from the preceding stage of analysis undoubtedly requires NGN platform elements as input factors. VPNs with QoS require routers and network links which can deliver the required services; VoIP with features demand soft-switches/IMS platforms which deliver the said features; performance monitoring, reporting and service management requires advanced BSS/OSS systems and the APIs to be available into the managed network elements and servers.

As a consequence, it may be worth the alt-net investing in layers of the NGN which are required input factors to its preferred services, even if it does not do so at scale. The inefficiencies may be outweighed by premium returns over the whole product, and there may well be additional opportunities for technical differentiation or learning-curve advantages in some of the newer technologies of the NGN. Again, detailed modelling is required.

An entry into professional services is not excluded. There appear to be few cases where an alt-net carrier has organically grown an SI division, but since systems houses exist at all scales, and are frequently quite specialised in terms of product and vendor competencies, acquiring some should not be too difficult. The source of competitive advantage will then come from the ability to link systems analysis, delivery and integration skills tightly with platform technologies and capabilities already owned by the alt-net. This is still sufficiently hard that making it work well can command a premium, even if this will be less true a few years out. Alt-nets should be aware of the dangers of killing SIs after acquisition by constraining their freedom to put high-quality solutions together, by subjecting them to routinist, process-centric management regimes, or by treating them as a loss-leader, thereby under-pricing their services.

Step 5. Making a recommendation

Finally, it should be possible to pull it all together, and make a detailed recommendation covering:

- Geography, customer-segment and product niches to prioritise
- Product portfolio to be developed
- Resources to be provided in-house vs. bought on the market
- Required acquisitions and disposals
- A costed business case and roadmap.

The time span of such a strategy is probably three years - certainly not more than 5.

Carriers and the SME Market

I have long been puzzled by the ambivalent attitude alt-nets have to SMEs. The sector is usually considered to be underperforming, with large enterprises being seen as far more profitable. CEOs complain there is a very long tail of under-performing customers, but it seems difficult to identify and dispose of them. On the other hand, there are many VARs and vendors serving the SME sector and they don't appear to be doing too badly, so what do *they* know which carriers don't?

I was fortunate to be able to talk to a senior executive with a long career in selling to this sector. I asked whether the SME sector was always a poor performer.

“People sometimes think that, but it’s not necessarily so. I have seen significantly better returns from SMEs even than from larger enterprises, where costs for bespoke solutions often pull profitability down.”

“So how do you succeed in this sector?”

“Small and particularly medium-sized companies today absolutely rely upon networked IT services. They prefer to have a relationship with a company about their own size which they find more affordable and which gives them a far more personal service. This is why they rather prefer to deal with Value-Added Resellers (VARs) rather than directly with carriers most of the time. They’re also very nervous about carrier lock-in.”

“So do you put together highly-tailored comprehensive products for the VARs to resell on your behalf? Is that the way you make money?”

“Not really, we find that the VARs are often concerned to use the integration skills which they take to be the core of their own businesses, and don’t necessarily want us to do all the work in advance. And in any case, SMEs are extremely keen on choice and don’t take kindly to having just one over-bundled solution put in front of them. We actually find it better to offer a portfolio of focused products to the VARs for them to sell on.”

“So where would you say were the sources of your competitive advantage?”

“I would say in two areas. Firstly we make huge efforts to be easy to do business with. For example, we try to facilitate ‘touch-free’ self-service via our VAR-partner Internet portal. The second source of advantage is that we are a new player. We already have a next-generation network, and most importantly a next-generation set of business and operations support systems. Without legacy, we have the right kind of service management flexibility right now, and our cost base is low.”

“So the key then is focus?”

“Absolutely. Our focus is flexible managed services aimed squarely at the medium business sector, and that’s what we’re good at. We may tactically try many things, but strategically, that’s where we are.”

Summary

Alt-nets are a mixed bunch. Some of the more established alternative network operators are smaller copies of an incumbent, with similar mixes of legacy networks, systems and products. Others, particularly those built in the Internet boom, claim to already be next-generation networks. It is emphatically not the case that one business strategy fits all.

There is usually room for one or perhaps two alt-nets to aspire to be generalists, junior competitors to the incumbent across most market segments and products. Unfortunately, the most likely candidates for this role are the older legacy alt-nets and they are the ones finding the next-generation network transition the most difficult. However, with sufficient capital resources, for example via acquisition by other major players, some will succeed.

Other alt-nets, particularly the newer IP-based players who have not found a deep-pocketed partner, should understand that their future lies in high-margin niches. They will have opportunities to address advanced ICT problems in both the large corporate and SME sectors, but will have to do so in partnership with systems integrators and VARs. There is an overriding requirement to identify a stable differentiating market focus, and then structure investment to shape the alt-net for success in that niche and lock-out competitors. I outlined a five step process whereby suitable niches can be identified and the necessary ‘make or buy’ decisions made.

There is a slow process of bottom-up commoditisation of all network services. BT likes to describe the process top-down as the ‘sedimentation’ of once-premium services to merely commodity status. But with the next-generation network being very new, and new services still in concept stage, this transition to commodity status, however it is called, will take many years. In the meantime, there are opportunities for both alternative operator generalists and specialists, providing the focal points are well-chosen. Key concepts for success are to prioritise flexible business and operational support systems (BSS/OSS), without these the alt-net is too unresponsive and immobile to succeed, and to invest in technologies and processes which make it easy for customers and partners to do business with the alt-net. These have more choices than ever, and will not tolerate poor service.

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