

Swimming with the sharks

Competing is not simply a matter of “eat or be eaten.” Just look at a coral reef: the ecosystem works for the benefit of the whole, not just individuals. So instead of being driven by fear of disruption from internet and media companies, telecom companies should embrace the opportunities arising in the evolving multimedia ecosystem.



THE COMMUNICATIONS WORLD is undergoing a period of massive change. Most industries experience gradual evolution, with periodic upheavals adding a bit of spice to the mix. Sometimes these changes are provoked by new entrants disrupting incumbents' comfortable market positions; or a new technology arrives and eliminates entire links in the value chain.

Sometimes companies have to fight tooth-and-claw to establish their new place in the sun. Even the needs of consumers can go through a massive change, leaving industry participants scrambling to defend established revenue streams or grab new business opportunities. Every once in a while, a very fortunate industry faces all of these pressures at the same time.

Lucky telecoms

While speaking at Ericsson functions and industry events over the past few years, I have had the pleasure of discussing the evolution of our industry with a number of people from a variety of backgrounds, and I have seen a certain degree of consistency in the concerns they express.

First there is the fear of disruptive competition from the internet, particularly from “free” services such as Skype and YouTube, and the increasing number of Google wannabes appearing on the internet each day. Few would now dispute that IP (Internet Protocol) has significantly reduced the delivery costs of data, and that soon enough, the vast majority of carrier networks will fully deploy this technology and become “all-IP.” Even now, the rapid and widespread deployment of broadband networks (both mobile and fixed) means that

end users have unprecedented access to high-bandwidth network connections, no matter where they go.

Second, the internet and telecoms industries are not the only parties involved in this dance: the media industry is starting to realize that digitization of content provides not only a very low-cost means of distribution, but also multiplies the way such content can be used and packaged for consumption. Don't just sell the song: sell the ringtone, the callback tone, the wallpaper showing the artist, and recorded snippets of music to use in voicemail messages too. At the same time, internet services are coming to rely on telecoms networks for functionality such as location and mobility, in order to expand how and where their products can be utilized. The convergence of internet, telecoms and media into a networked multimedia market is providing new value for end users, but the players in this value chain are going through a period of head-scratching (and head-butting) trying to figure out who will play which role, and how big each piece of the revenue pie will be.

Third, perhaps the greatest amount of puzzlement is experienced by those trying to keep up with user wants and needs. Digitalization is rapidly increasing the scope of offerings available to end users, and broadband is providing a delivery vehicle fast enough for even the most bandwidth-intensive content. And terminal providers are finding ways to squeeze more functionality into their devices. This includes more processing capacity, more storage, voice, music, radio, still and video cameras, identity, payment, location, internet access, TV and more.

Where's the beef?

While all this is going on, voice revenues per user are declining. To make up for this shortfall, operators have two options: get more users, or convince existing users to spend a greater portion of their disposable incomes (share of wallet) on things available via telecoms networks. The former is not practical in most developed markets, so the latter strategy is being widely advocated as the way forward. The big questions then become: which existing services and content will end users want to receive via the telecoms channel, and are there new services that are so valuable to end users that they will give up some other elements of their lifestyle in order to accommodate them?

Stronger individualization

Several new behaviors are emerging:

- Media and communication services are becoming more personal (tailored to individual needs) and more fragmented (on-demand, time- and space-shifting).
- Users also want to be connected all the time, no matter where they go.
- Users are not just passively consuming media but want to interact with it, generate their own content and share it online.
- The possibility of global contact combined with stronger individualization is leading people to reach out beyond national and cultural boundaries to find others who share their interests, and seek ways of expressing themselves in an emerging global tribe.
- At the same time, the need for global reach is balanced by local relevance. It is not either/or – it is local and global at the same time.



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Media and communication services that can build a perceived user preference into one or more of these factors are more likely to provide sustainable revenue streams for operators in the long term.

And now for something completely different...

There are aspects of digital distribution that offer network operators key competitive advantages over traditional retail channels: the potential for nearly infinite inventory, the ability to offer powerful search capabilities, and intimate knowledge of end-user preferences.

Let's look at Apple's iTunes. While a typical CD music store will usually stock 50,000 to 100,000 titles, iTunes – with its lack of a physical inventory – offers a library of more than 3.5 million titles. Taking advantage of this phenomenon is called mining “the long tail” (I strongly recommend the book by Chris Anderson with that title) and is applicable not only to music, but other mass media such as books, images and video. It is especially significant in explaining how user-generated content can actually create value for users, drive increased traffic on networks and perhaps even direct revenues.

And iTunes also makes it easy to search through its vast catalog, which caters to even the most esoteric tastes. So while it is true that new releases make up most sales, the rest of the library has the potential to generate revenue indefinitely.

Finally, because iTunes tracks purchases, it can offer suggestions – targeted ads – to users about other music available in the catalog. So the advertising industry becomes another potential revenue booster. As opposed to mass media, operators can offer not only detailed demographics on who sees the ad, but also a channel of interaction with the viewer, both of which are priceless to advertisers.

Of course the potential for new uses will not translate unassisted into increased revenue streams for operators. The exploitation of these new businesses will pose significant challenges to all the parties involved in the value chain, not least the operators, who will have to embrace business models, strategies and practices usually seen in the retail world.

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This path is not without its own hurdles. Service-layer infrastructure is already evolving in order to profitably deliver an improved user experience with all this new functionality, scalability, performance and carrier-grade quality of service. And telecoms' ability to deliver this new experience does not guarantee either user acceptance or that the incumbent channels will give up their customers without a fight. Indeed, each new business area will impose a new learning curve on operators to figure out “where the fish are, and how to swim with the sharks.” Perhaps the biggest challenge, however, will be in finding sufficient content and applications to take advantage of these opportunities.

Filling the pipeline

Giving users a much broader offering of content and applications will require more than a significantly expanded value chain with cross-industry partnerships; it can happen only if we increase by orders of magnitude the number of parties involved in developing new content and service ideas, and that means engaging members of the media community as well as the application-development community. This presents a dilemma, because the telecoms community has only limited channels to the general media and developer communities, and they, in turn, have limited awareness of the commercial content and application opportunities that telecoms make possible.

Fortunately, multimedia content and services developers do not work in isolation. In fact, these days they rarely work alone. Most participate in a broad network of platform vendors, tool suppliers, open-source communities, aggregators and hosted application services. This is called the “ecosystem” approach, and, as with a

biological ecosystem, it works best when all members fulfill their roles in the chain.

How ecosystems work

Ecosystems were originally characterized simply as “food chains” – a description of who eats whom. But even in the natural world, it became evident that this was not the whole story. In fact, members of the ecosystem affect not only the plants and animals they prey upon and who prey upon them, but may also transform their environment in ways that have a huge impact on the overall success of many other members of the ecosystem.

We can take the example of beavers changing the very landscape around them, providing feeding and breeding habitat for waterfowl and other migratory birds. Another example occurs in the oceans, where small fish establish “cleaning stations” where bigger fish, which would normally prey on them, come and let the small fish eat parasites from their bodies – even from inside their mouths and gills. The small fish get a meal, and the big fish leave with a reduced risk of parasitic disease.

These examples show how members of the ecosystem provide not only nutrition, but also how they can have a profound impact on the success of other members of the ecosystem. In the world of electronic content and applications, the ecosystem's energy, food, oxygen, habitat and safety are markets, capital, technologies, suppliers and channels.

As in biological ecosystems, each member contributes to the success of the entire chain, and when the ecosystem is healthy all members share in that success. So how can the telecoms community use these principles to build a content and application ecosystem that can thrive in the world of networked multimedia?

By our bootstraps

Like other ecosystems, markets evolve over time, reacting to changes in business climate, technologies and consumer behavior. New markets start simply and gain greater depth and complexity as new and existing players discover niches that provide them with a competitive advantage. Yet some of these opportunities involve unfamiliar industries, so how can operators build the competencies they need in order to compete? And how will they get content and application providers to see telecoms as their channel of choice for bringing their offerings to market?

An ecosystem approach makes it possible to enter these markets gradually, building a position of strength through progressive investment in that market and the network of partnerships needed. The first step is to identify a market or activity where network access can offer obvious value to end users, and an incremental market or an obvious advantage to content and application providers.

Let's take ringtones as an example for the music business. Ringtones and callback tones brought a completely new set of revenues to the music industry, long before operators considered offering full-track music downloads. The ringtone market gave users a new way to express their individuality and musical affiliations, and it also led to "first contact" between telecoms and music providers. Though it was sometimes a bit rough to work out the revenue split, it was an obvious win-win-win scenario for users and both industries.

Another market-building strategy used in the ecosystem approach is for vendors (and sometimes network operators) to offer assistance to content and application developers in the form of software development kits (SDKs), market knowledge and market access. In particular, the SDKs provide highly abstracted application programming interfaces (APIs) that allow developers to integrate network features quickly into their applications. These are often accompanied by validation programs and promotional activities meant to build an initial awareness and demand for the applications – and thus network traffic. What's good for the league is good for the team...

At first the supply chain is very thin, with only a few parties involved. The next step in an ecosystem approach is to work on increasing the efficiency of the supply chain. This sometimes involves the introduction of middlemen who engage in a very small part of the overall solution delivery chain, but who take advantage of economies of scale, finance, or who simply are faster or less expensive within their own small sections of the chain. Here we can see aggregators, hosted service providers and brokers. These additional parties take a portion of the revenues, but free up time and capital for other members, who can then focus on core competencies and cost reduction. This way, other members still make more, even when sharing the margin.

It is also worth looking at companies that would sometimes be considered competitors to see if, by working together in some areas, there is a chance to boost the overall market significantly: making the pie bigger for everyone makes each competitor's slice bigger, even if their market shares remain the same. This is called the "co-opetition" market model, which came

to prominence in the IT market, where larger-scale compatibility and interoperability led to major advances in the usage of computers, the internet and the worldwide web. It has even led to the "open source" movement that created Linux and many of the tools and services used in developing applications and offering services over the internet.

A change of attitude is needed

The telecoms community has to an extent been using this model for the past 100 years to provide the global telecommunications network. But our historical emphasis on protecting intellectual property rights has made taking the co-opetition route difficult. A good example of changing attitudes is Ericsson's contribution of IMS SIP container source code to the GlassFish Project, an open-source activity started by Sun Microsystems. The motivation for this effort is to get more IT developers utilizing IMS-based network features in their applications.

Give me the service I want, when, where and how I want it.

Another factor favoring the ecosystem approach stems from the increasing empha-

More on Glassfish and Sailfin

Project GlassFish is an open-source community creating a production-quality enterprise Application Server using the Java EE 5 Reference Implementation and the Java Persistence API Reference Implementation. The community also provides an object repository, tools and information, and, in the Open Source tradition, encourages plugability and reuse across many other communities and projects.

One of these is Project SailFin, an open-source SIP Servlets extension for GlassFish based on robust and scalable SIP Servlets technology contributed by Ericsson. It enhances Glassfish with access to SIP-based services such as voice over IP (VoIP) phone service, instant messaging, pres-

ence and buddy management and web conferencing. SailFin currently implements JSR 116 and is being extended for JSR 289 compatibility, adding high availability and clustering features and integrating with the existing GlassFish services. Visit <http://sailfin.dev.java.net> for more information.



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sis on network convergence. In a convergent network scenario, users can consistently access any of the content and services they want, no matter which network is providing access and what terminal device is being used. In the triple play (voice, internet, television) or quadruple play (voice, internet, mobile and fixed voice via VoIP) scenarios, the convergent network operator can gain economies of scale by using the same infrastructure to deliver services to all access types. Of course each access type also has its own advantage. With IP-based TV, for example, the TV screen (with a broadband set-top box) offers high-resolution image quality; the PC makes it easier to search for, interact with and access media content. With mobile TV you can watch your programs whenever you have a few minutes, even if you're on the move.

Too expensive to do it alone

Getting all of this from one entity potentially simplifies the user's life: it means having a single bill to pay, avoids the need to maintain several separate identities, allows the same services everywhere, and makes it much easier to keep all services synchronized.

The hard part is that doing all this requires common standards across network types, interoperability across vendor and operator boundaries, and interworking with legacy systems from all these different access networks. Such a job would be prohibitively expensive should a single company try to do it alone. However, by standardizing key network interfaces – as was done across mobile, fixed-line and cable industries with the adoption of IMS – the different parties involved in those separate ecosystems can combine efforts to build common offerings by partnering with each other.

Another major benefit of this common approach is that it provides a broader market for content and application developers, reducing their business risk and hopefully attracting even more developers. This will make it far more likely that operators will have available to them a critical mass of services with which to compete effectively in their chosen market segments.

The recipe, please

IN SUMMARY, here are a few things to keep in mind when employing the ecosystem approach:

- 1) Diversify the offering** – let the customer be your guide.
 - Provide as wide an offering as possible and let the market decide what works.
 - Cater to the Cs: Content, Cash, Choice, Channel, Convenience, Control, Connectivity and Closeness.
 - Keep an eye on unintended use – it can lead to the next big discovery.
- 2) Diversify sourcing**: the more partners the better.
 - Become efficient at handling a wider range of partners to open up business possibilities and multiply the sources for potential ideas, respond to a wider range of market developments, and reduce potential points of failure in supply chains.
- 3) Embrace co-opetition** – your competitor is often your friend.
 - Support common standards for

interoperability and interworking.

- Build a critical mass of acceptance by making it easier for all parties in the value chain to work together more efficiently by openly sharing tools and SDKs, assistance, and testing.
- Change user channel preferences via market-building activities.
- 4) Use the characteristics of electronic distribution** – build a superior “niche”.
 - Use interaction, location, mobility, presence, identity, group management and other advantages.
 - Be the link between the physical and information worlds.
 - Mine the long tail: offer a wider inventory, better search tools and multiple user experiences via portals.
- 5) Progressive engagement.**
 - Each market has its own particularities and established channels. Acquire the competencies to understand how the business is run, and how to leverage telecoms' capabilities from both a technical and user-experience basis.
 - The right partnerships at the right time can make a world of difference.

Don't miss this opportunity

This approach is radically different from the “killer app” and IPR mentalities we have held onto in the telecoms industry so far. It is a daunting task for our industry to join with the internet and media industries in creating the new networked multimedia market. The opportunity is there for us to seize or to miss. However, we have the means to impact the quality of life for the greater part of humanity in a very short time, and to build a significant part of the economy of the coming millennium. We do indeed live in interesting times.

the author

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