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The use of video in a telecoms context is growing. **So where is the money?** Here is a closer look at video as a medium and what it could mean for the telecom industry.

Enter the new video – no longer the medium you once knew

Seeing is believing

ILLUSTRATIONS Robert Hilmersson

Visual communication has long been a part of the standard vision of the future. It is a **natural and very basic form of communication,** and demand for it can be taken for granted. But video as a telecom service has so far **failed to deliver.** However, important changes have now started to alter the scene.

VIDEO HAS BEEN QUITE a vexing problem for the telecoms industry. On the one hand, it provides opportunities for network operators to use new revenue streams to offset decreasing charges for voice and text services, and it is a path towards monetizing the increased network bandwidth provided by LTE. On the other hand, it presents major challenges to current network capacity in terms of both transmission and backhaul. In addition, as a paid service, video calls and broadcast-to-mobile video have not exactly been raging commercial successes.

But one thing is certain: the use of video in a telecoms context is growing, as evidenced by the popularity of mobile clients for YouTube, Netflix, Skype video and, more recently, services such as Apple FaceTime and Qik. The challenge for network operators lies in successfully generating profit from video-based services.

So where is the money in video? To an- ►

Theme in short

▶ Explaining what visual communication could mean to telecom, and society at large. ▶ Highlighting key market prerequisites such as consumer acceptance. ▶ Solutions for visual communication are rapidly converging, both technically and business-wise, creating what is in effect a new market.
CONCLUSION ▶ Telecom has been reluctant to enter the video and teleconference market and is in danger of being muscled out of it by IT-companies, at least from the top of the value chains. ▶ Telecom's great chance is the key role it can play in standardizing and scaling up todays fragmented solutions and so popularize video in a mass market. ▶ Environmental concern is an increasingly important driving force.

Video has now become ***a key communications*** tool for individuals and businesses alike, so why are so few telecommunication network providers successfully ***generating revenue*** from video-based services?

Answer this question, we need to take a closer look at video as a medium and determine how it differs from other information transmission media such as voice and text, and how people relate to video innately.

HOW HUMAN COMMUNICATION WORKS

Throughout much of human history, knowledge has been shared by having one person show another how to do something, or by teaching a whole group of people at once. Early man spread knowledge through stories, songs, dances and re-enactments, teaching the next generation how to find food, build shelter and avoid predators. Most significantly, these methods of knowledge dissemination ensured people knew what was important and what was trivial, how to understand others and get along, and how to contribute to the well-being of the whole village.

This demonstrates the power of visual communication. As any good teacher or accomplished storyteller will tell you, it's not just the words but also the gestures, the expressions and the entire "performance" that reach people's hearts and minds and help them receive, assimilate and retain information.

This method is highly effective because the human mind has evolved to learn by engaging all of the senses. Visual communication conveys the whole performance. It is visceral, natural, powerful, intimate and broad. It conveys far more information than just words alone, and so "show me" has been the way to learn since the dawn of mankind. "Tell me" (via written text) is a relatively new form of communication, only gaining favor with the invention of movable type and the printing press.

However, the written word does have at least one major advantage over visual communication: it can achieve an amazing scale very cheaply. The technology of printed text made possible an awesome explosion of human knowledge, science, arts and culture. Books became affordable and spread knowledge to a much larger audience. With newspapers, it also became possible for ordinary people to share their experiences and their understanding of the world, participate in social and political discourse, and have their voices heard.

Then, in the early 20th century, technology changed the game again with the invention of recorded sound and moving pictures. It became possible for people to record performances – demonstrating not just how to sing a song, but also how to do it well. These recordings were then presented privately and publicly across entire countries and around the world, improving the quality of performances as more people were exposed to top-level talent. However, making recordings was time-consuming and expensive. The production process did not "scale" as easily as print, so only specialized organizations or governments could afford to use these media to tell stories, inform, educate or mislead.

Another major change occurred with the invention of the transistor in the 1950s and its widespread application in consumer electronics. Then, the media industry changed radically as devices became smaller and user behavior evolved to take advantage of the new portability and autonomy made possible.

THE WILD RIDE OF MUSIC MEDIA

The transistor radio was popularized in the early 1960s, and for the first time, ordinary people could listen to news and music anywhere they went. Radio stations flourished and diversified in format as more people tuned in. Next came the era of the compact cassette player, liberating people from the radio stations and their programming and giving them direct control over their music choices. Soon after, people started making their own mix tapes that better suited their musical tastes. These eventually became a way of expressing their personality and creating a shared musical experience. More recently, the MP3 player, iPod and iTunes have allowed people to carry their entire music libraries with them at all times. People are not only sharing their playlists, but also recording commentaries, reviews, events and knowledge using the now-ubiquitous podcast.

These developments were not foreseen as obvious consequences of the mobilization of music, but they do indicate how mobility and individualized control can change the context of an entire industry from a pre-programmed mass market to a highly personalized form of experience sharing. It is highly unlikely that such a massive transformation could ever take place in an industry without extensive disruption to value chains, the appearance of new market players and disappearance of previously unassailable incumbents, experimentation with new business models and plenty of false starts and failures along with the few successes.

We are now seeing this process repeat itself

in the context of video-based visual communication. Just a few years ago, producing video required cumbersome and expensive equipment. Editing raw video into a viewable product took time and required expertise, and the process of ensuring that other people could experience it was slow and expensive.

The arrival of the mobile phone with video-playing and recording capability brought about another major change. As with mobile audio devices, the ability to view, share or record video whenever the mood or need strikes is significantly changing the contexts in which video is utilized. Video has now become a key communications tool for individuals and businesses alike, so why are so few telecommunication network providers successfully generating revenue from video-based services?

SHOW ME THE MONEY

Of course, the first problem was access to compatible devices. Initially, even if you had a video-compatible mobile phone, few people could receive your video call. The quality of the experience was subject to erosion from low-resolution cameras, poor reception, and limited network bandwidth. At the same time, expectations had been raised to a very high level by countless TV shows and movies set in the future, when technology had overcome all these issues and anyone making a video call was an actor with impeccable hair, shiny white teeth and a wardrobe assistant.

High costs also prevented the acceptance of video-based services, and even worse, sometimes subscribers didn't completely understand how they would be charged for these services. Stories of consumers who unwittingly ended up amassing sky-high monthly service charges circulated widely, discouraging usage. Also, for video broadcast and video-on-demand services, access to high-quality content was limited by media-licensing practices, device-screen size and, especially, low screen resolution. The rise of free internet-based video services, including video calls with varying quality standards, was another inhibiting factor.

Together, all of these factors led to a situation in which the perceived user value of mobile-network-based visual communication services was not in line with expected costs, so the services suffered low uptake and infrequent usage.

However, in the past two years, the situation for video has once again begun to evolve radically. Once more, the picture has changed substantially from a user-value perspective, thanks to the introduction of certain key technologies and phenomena: social networking, mobile broadband and smartphones.

VIDEO AND SOCIAL NETWORKING

The first major game-changer for video was the advent of social networking. With the arrival of Facebook, LinkedIn and similar services, people have a powerful new context in which to manage their relationships, share experiences and, more importantly, initiate social activities, whether these are expressed via text, voice or video. Social networking also positions the friend or contact list at the center of the user experience. In the mobile context, this is expressed as a growing focus on the address book as a launchpad for initiating services, including video.

Sharing experiences is a fundamental way for human beings to learn. We all decide together, overtly and subliminally, how to understand the world around us and to build a genuinely shared reality. This is why social networking is proving so popular and pervasive – it resonates with deep-set human needs to form and nurture relationships with our peers, our antecedents (those from whom we learn) and our progeny (those we teach).

The huge popularity of YouTube and the posting of videos on Facebook indicate that, for many people, the differences between text and video are significant enough to warrant the added effort required to create videos. Video is dynamic in that it carries not just the information, but also the performance. "Show me" has become an exciting new form of communication for all of us raised on the written word and the dictates of "tell me."

Technology writer Chris Anderson foresees that video will have a massive impact on the evolution of society and on culture and science. Already, doctors are using video to present diagnostic procedures for new or rare diseases, demonstrate medical treatments and surgical procedures, and to communicate concepts that would be difficult to explain using only the written word. Similarly, the advancement of science depends on ensuring that multiple scientists can replicate experiments and obtain the same results. This process is made easier, faster and more likely to succeed with the use of video instead of traditional written communication.

JUST CAN'T GET ENOUGH

As social networking provides a way to indulge in the sharing impulse, and the culture of personal video takes off, the mobile network bandwidth needed to transmit all this information at a reasonable cost is becoming available. First with 3G and soon also with LTE, networks will not only be able to deliver high-quality video anywhere, they will also be able to offer the low latencies that truly improve the user experience of interactive visual communication services.

Many people now prefer to watch their favorite TV shows or movies when it's convenient for them, even if that means viewing them on a small screen. People can look for how-to videos on YouTube while fixing their electronic appliances, or use video to obtain advice from friends. Businesses can use video to enhance customer support, avoid travel expenses and reduce their carbon footprint.

Another factor contributing to the appeal ►

of visual communication services is the meteoric rise of the smartphone and the accompanying increases in screen size, video quality and easy downloads of customized applications including video clients. Inexpensive applications that reduce the cost and expertise needed to record and edit video can also be directly downloaded to smartphones, allowing almost anyone to produce reasonably polished videos.

These technologies are creating new possibilities for integrating video with telecoms enablers to introduce new value chains with both direct and indirect revenue models. For example, more and more people now record significant events as they happen and share videos of their daily lives by posting on YouTube and Facebook. Others engage in citizen journalism, market themselves or share knowledge, check on their homes while traveling, and so on. Video is also being used in specific markets such as health care. Practitioners can significantly reduce costs by using video to enable remote consultation and diagnosis, demonstrate treatments and procedures, track effectiveness and patient recovery, and facilitate access to specialists without the need for travel.

VISUAL COMMUNICATION: A NATURAL CHOICE

Video receives attention. It is a rich experience, it offers enhanced communication and now it even "scales" well. The implications of people's behavior transitioning from "tell me" to "show me" are changing the user value equation for video and providing new opportunities.

Mobile phones are increasingly involved in not only the consumption, but also the production of video, and people have an intimate relationship with their mobile phones: it is the one device people always keep close at hand. This places the network operator in a privileged position, being the most accessible "point of sale" in the digital media economy. Network operators have "first crack" at satisfying user needs and the multitude of direct and indirect commercial opportunities that come from customer attention as well.

Overall, video can be both intimate and intimidating. Voice and texting have their places in people's daily communication activities, and it is important to keep in mind that visual communication is not suited to every purpose. However, when it comes to sharing experiences, visual communication is already playing a major role in people's lives. With mobility and bandwidth, video has become available for use anytime, anywhere. And with the social networking and smartphone revolutions, visual communication services are not only accessible and easy to use, they have become a natural tool for people to use to express themselves and do business. ●

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