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On the Myth of Convergence

Klaus Goldhammer

1 Introduction

In many discussions on the future of media the term “convergence” is present, often uncritically acclaimed or prematurely held responsible for media developments. Yet the topic raises questions: What does convergence really mean? Where can we find true convergence? And if there is convergence—is it useful and valuable for the consumer? Such questions on convergence will be analysed and discussed in this article, focussing especially on the much heralded topic of converging wireless content applications.

Special attention will be given to three major areas: convergence of devices, content, companies, and markets.

2 Definitions

Convergence means that the realms of media, telecommunications and information technology seem to be conjoining. Definitions of the term come from different academic disciplines. Most remain imprecise—as for example the one outlined in the European Union’s Green paper:

“The term convergence eludes precise definition, but it is most commonly expressed as:

- the ability of different network platforms to carry essentially similar kinds of services, or*
- the fusion of consumer devices such as the telephone, television and personal computer...”*

Probably the most precise description is provided by the mathematical definition: Two lines approaching each other infinitely close but never cross.

In this chapter, we will examine convergence in the wireless sector. At first, convergence of wireless devices will be surveyed.

3 Devices—Of Razors and Mobile Phones

3.1 The Issue of Practicability

The first issue is practicability of the converged device. By practicability we understand technological user-friendliness, i.e. the ease with which the different functions of the respective device can be utilized.

Consider for example the CASIO watches of the “e-data bank”-series offering a host of functions including a password-protected database and schedule planner. It certainly may seem useful to have access to important data at all times, yet trying to organize one’s schedule on a watch display will surely prove a challenge.

Mobile phones offer some relief to that problem: their integrated schedule planners are considerably easier to use due to their larger displays. But their practicability is impaired by another problem: how to use the converged device to set a calendar event while having it pushed against the ear while making a call?

3.2 The Issue of Functional Efficiency

The second issue to be addressed deals with functional efficiency. Converged devices often do not live quite up to their promises. Consumer complaints¹ indicate, for example, that wrist-watches equipped with a host of tools such as a digital compass, an altimeter, a barometer, and a thermometer² often do not produce the same quality results for all the offered functions.

These two arguments do not negate convergence as such. Practicability could be increased and functional efficiency ensured. But as for the moment most of today’s converged appliances do not meet consumers needs.

3.3 The Issue of Utilization Patterns

A third problem is the issue of device-specific utilization patterns. What all converged appliances have in common is that they combine formerly separate appliances into one, because the underlying tasks are assumed to be closely associated with each other, or accomplished at the same time.

Consider for example Internet-enabled TV. The reason behind combining the two functionalities of the TV and an Internet-enabled PC in only one device (Internet TV) was believed to be beneficial for the consumer.

Two radically different technologies were blended together, yet only little thought was given to the differences in their utilization patterns. Even though the technological foundation—the digitalization of content—could eventually enable the fusion of TV and the PC, existing utilization patterns are not likely to turn channel surfers into web-surfers. The fundamental problem of those devices can be described as the “Swiss Army knife dilemma” (Norman, 1998). While it surely is of great help to use a Swiss Army-knife outdoors, in daily life we prefer using a bread knife to cut bread, or a corkscrew to open wine bottles, to using our handy pocket knife indoors. Different utilization patterns demand different, specific devices. The reason is that only those tools, designed for a specific task can be perfectly fitted to that task in physical form, features, and structure. Whenever one device is made to fulfil several functions, it must compromise on how well it can handle each individual task. Furthermore, the increasing complexity is likely to scare off many people.

3.4 Why Convergence of Devices?

But if converged appliances create more problems than they solve, why do manufacturers keep launching them? Donald Norman (1998) argues, that the chief problem is engineers drive the high-tech industry rather than the needs of consumers. Norman accuses the industry of succumbing to the disease of “featuritis”.

A second possible explanation are cultural differences. One example of this can be found by comparing the consumer cultures of the U.S.-American and Japanese markets, summed up in the term “mottainai” by Steve Mollman (2001). Roughly translated, it means “it’s a shame when you waste something”. This sense of “mottainai”—centuries old—leads to objects and devices in Japan being fitted together in intricate and complex ways, so as to save the most precious resource of all in Japan: space. Mottainai helps to explain the country’s “converged appliance” phenomenon, and thus also accounts for the fact that it is often problematic to translate products successfully adopted on the Japanese market into the Western Hemisphere.

3.5 Summary Devices

“Our research has come to the conclusion, that even in 2010 we will not see a universal communication machine, that determines our everyday live” (Beck, Glotz & Vogelsang, 2000)³.

Differences in the business models and price structures of wireless and conventional telephone networks should not be neglected. However, an economic analysis cannot explain which converged or specialized devices are being used for the respective network. Converged “do-it-all” devices do not offer the best solution for most consumers in Europe and North America.

4 Contents: Are We Content With Content?

In the field of content, the vision of a “converged future” is represented by the idea that content only has to be produced once, and can then immediately be sent on to a host of different platforms.

4.1 Conflicting Standards and Integration Issues Will Impair Progress

The medium determines the message. There are vast differences between what can be displayed on a TV-screen, a PC-monitor or a PDA-screen. First of all, a vast number of competing software and hardware standards confuses content providers and users alike. Much thought has been put into software that invisibly serves appropriate content to any device chosen. A step in this direction has been the extensible markup language (XML). Different standards are abundant for different applications (such as VoiceXML and ebXML (electronic business XML)). And even though several initiatives⁴ try to fuse XML standards, the road towards universal convergence is still long if not impossible.

But as it has already been argued before—what might be technically possible is still a long way from what consumers will use and pay for. Regardless of available programming standards to make content accessible from a number of different devices—the tough question to answer is: Is it going to look good? And: Does anybody need it?

Display sizes, memory (RAM) and battery capacities as well as the speed of information transfer significantly limit content transfer from one device to another, even under the assumption of universal standards. Anybody who has tried to play an interactive PC-game on a mobile phone will agree (Screen Digest/Goldmedia, 2004).

4.2 Case Study UMTS

In the year 2000 several European countries auctioned licenses for third generation (UMTS) mobile telecommunications, the new standard that is expected to revolutionize mobile communications since it allows providers to offer a host of new mobile services, such as fast Internet access, virtual banking, credit card transactions, and video conferencing surpassing the quality of the most advanced fixed-line telephony.

The providers of mobile telephone services are now in a desperate need to find new meaningful applications that will help to recover the investments.

One of the first UMTS-applications that providers included in their portfolios was the videophone, representing the convergence of a camera and a telephone. We argue that it is more questionable whether the videophone will represent even a moderately successful application.

The idea for this type of device has come up many times already in history, reaching back until 1927 when Bell System manufactured the first “Picturephone”, or a primitive trial version. At the 1964 World Fair in New York, Bell System unveiled a fully developed “Picturephone”-system. Not surprisingly, it never succeeded. *“The technology clearly was ahead of its time—[but] consumers and their lack of interest doomed the Bell System’s Picturephone system,”* Communications professor A. Michael Noll (1992) wrote in an article titled “Anatomy of a Failure.” The manufacturers were so convinced of its ultimate success that they even ignored their own market research findings, in which half of the people surveyed stated that they weren’t interested in such a device, Noll explains.

Yet despite the past failures, the video phone concept has not deterred companies from trying again and again, as optimistic as ever that it will eventually succeed in a consumer market.

4.3 Driving Force for the Mobile Business

Far from assuming that product managers and companies are generally ignorant of what consumers need or even ignore their own research findings, it should be acknowledged that many companies conduct extensive surveys in order to be able to meet user demands and expectations. German mobile phone manufacturer Siemens (2001) for example asked 11,000 European users of mobile services for their requested services and potential willingness to pay for extra service.

Siemens found that 88% of the interviewees requested expanded mobile services. Especially the younger segment of the population turned out to be

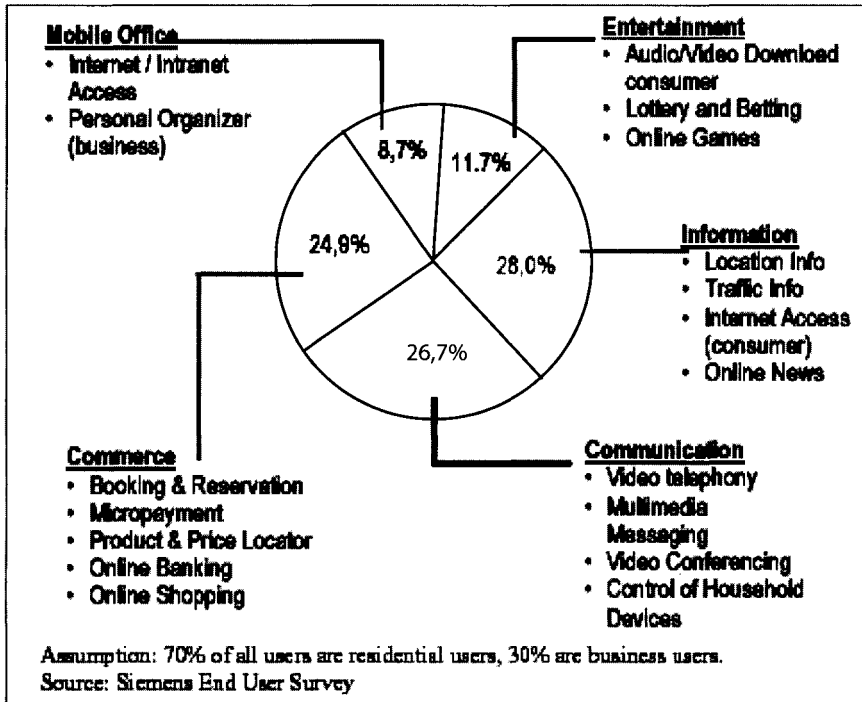


Figure 1: Requested services and user demand of mobile services

willing to pay for additional services. This so-called “generation@”, represented by the under-25 user segment of the population, shows more interest in entertainment applications such as mobile interactive games or downloading audio/video files. Therefore, it is at the center of Siemens’ marketing initiatives.

These findings are supported by a study conducted by the German B.A.T. institute (2002)⁵. In this survey, 2000 people were asked whether they would prefer an all-in-one device that combines telephone, TV, PC, Internet and e-mail functions. Not surprisingly, the population segments of the 14 to 19 year-olds as well as the 20- to 29-year-olds showed the highest interest compared to other age groups. As illustrated in figure 2, the demand for a converged “all-in-one” device decreases with advancing age. One reason might be that such young people have not yet developed distinctive habits of media usage for print media, radio and TV.

But how can the so-called generation @ be turned into the driving force for mobile business? Unfortunately, even though young population segments show a willingness to pay for additional services, they also have rather low levels of disposable income.

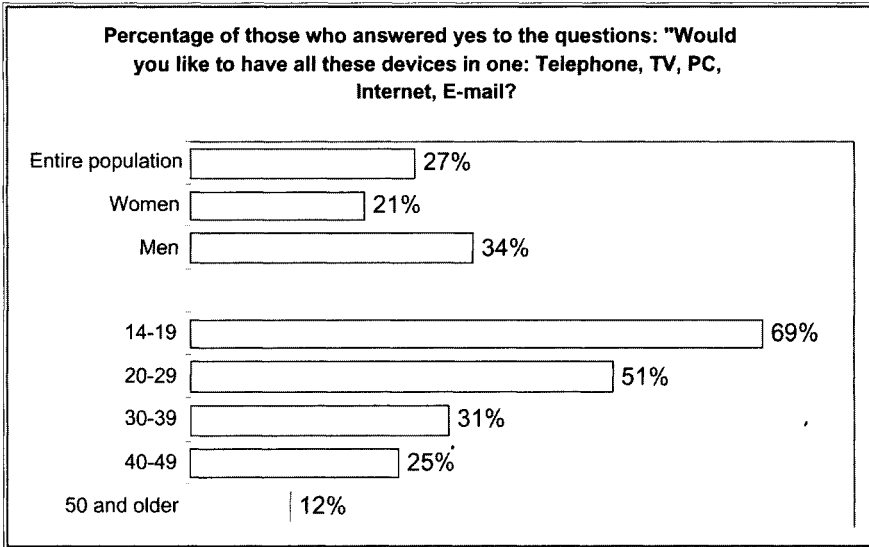


Figure 2: New media technologies vs. old media habits

Representative survey of 2,000 adults (age 14 and older), February 2002 in Germany

(Source: BAT, 2002)

Which elements of mobile services will turn out to be successful? In its survey, Siemens asked respondents to indicate their willingness to use and to pay for specific mobile services. Downloading video/audio files is of high interest to 67% of the under-25 user segment. On average, these users are willing to pay € 3,20 per month for this service. Considering all age groups, though, only 38% are interested. The overall user group is only willing to pay an average of € 1,40 a month.

Receiving information seems to be of high interest to the average user. Survey data suggest that a map-based traffic information service for cars, would generate much interest. Users show high willingness to use it (68%) and are willing to pay about € 2,90 a month for it.

4.4 Content Delivery Services

Since 1992, when the standardization of GSM (Global System for Mobile Communication) was completed, GSM has become the most common technology for mobile telephony. In addition to speech, GSM offers a wide range of supplementary services such as call forwarding, call barring, multi-party service, and Short Message Service (SMS).

SMS was introduced as a service to notify mobile service subscribers of new messages in their voice-mail box. Later, person-to-person messaging became available, but only when cross-network text messaging was introduced the popularity of SMS increase drastically. As more mobile customers adopted SMS, a number of SMS-based mobile content delivery services were introduced. Users could receive information such as weather or sports news on their mobile phone.

The bulk of all messaging traffic is made up by person-to-person messaging. Specialized SMS content delivery services continue to be developed and will account for 7 per cent of all SMS traffic by 2006 (Frost & Sullivan, 2002). Network operators and content developers use the format as a support for next generation multimedia applications and services like EMS⁶ and MMS⁷.

4.5 Divergence not Convergence of Content

At the moment, content providers have to face the problem that there is no such thing as a write-once-run-anywhere content in the digital world. But as the survey of recent technological developments shows—for example, the convergence of standards, the increase of transmission bandwidths—convergence of content services to be used on a number of different devices, is probably going to be possible soon—technically.

Yet, user-friendliness is not achieved by technological convergence alone. High-resolution graphics do not translate well to a hand-held computer. Even a short text text on a PC-screen will lead to extensive scrolling on a mobile phone display. Thus, whether converged content will be visually suitable for all the devices it can technically run on, still remains an open question.

No matter what medium is used, it will always be necessary to format the content specifically in order to fit the method of interaction of each device and its technical specialities. The entertainment-format “Who Wants to Be a Millionaire” looks very different on a PDA and a PC.

A popular application on the PC and mobile phones alike is playing games. But trying to translate PC-games to run on a mobile phone can result in a less than enjoyable experience. Only one of the pictures can be displayed at each moment because of the limited display-size. Furthermore, the information transfer is slow, the displays are too small, memory (RAM) is undersized and the batteries are short-lived by coloured displays of mobile phones.

The market for wireless games has an enormous growth potential, and should reach \$6 billion in 2005 in the U.S. and Western Europe (UK and Germany as the largest wireless gaming markets). But initially, only simple

games such as card and quiz games and bingo were really suited and popular on mobile phones.

4.6 Summary Content

Visionaries are still far ahead of technological reality. And even though technology might soon make some visions come true, it is the users who decide in the end. For them, cutting-edge technologies count for less than content formats designed to meet their needs.

5 Companies and Markets

For quite some time, the convergence of three different markets has been heralded: Media, IT and Telecommunications companies were about to converge, creating a vague but promising “interactive multimedia world”. And indeed, some companies tried to make this forecasts come true and to expand their markets. The most prominent examples are probably the merger of AOL and Time Warner, or of Spain’s Telefónica buying Endemol. Many others were pressing ahead with take-overs, joint ventures and alliances along the value chain.

But after the dust has settled, what is the real result of the promised convergence of three markets?

The AOL/Time Warner merger attracted many investors because of their belief in convergence and its promise of the synergies. One of the chief intentions was the introduction of broadband Internet via Time Warner’s cable networks. As a result, AOL would get access to content from TV channels and movie studios. In return, Time Warner could expand its Internet presence with the help of AOL.

These synergies did not materialize. On the contrary, the only definite result of this merger is a record destruction of values. While at the time of the merger in January 2000 the companies had a combined value of \$181 billion, AOL Time Warner was worth only \$106 billion in January 2001, after the merger was finalized. In 2002, the company was forced to take an accounting write down of \$54 billion, a record amount.

6 Summary and Conclusion

After surveying forecasts and realities we argue that the empirical evidence does not support many of the scenarios of convergence in media, telecommunications and information technology.

The great majority of users do not want a universal device which combines a large number of different functions. Most consumers are not ready to change their habits and accept new (converged) systems without obtaining a clear added value.

We argue that product differentiation, divergence, and single usage applications will succeed. The continuing need to build device-specific content as well as missing standards show that the term “convergence” is vague and possibly mythical.

Whatever the focus is, be it devices, content or companies and markets—true convergence is rarely seen. Many visions lost focus of the consumer and his needs. Instead, the search is open for more realistic and concrete solutions.

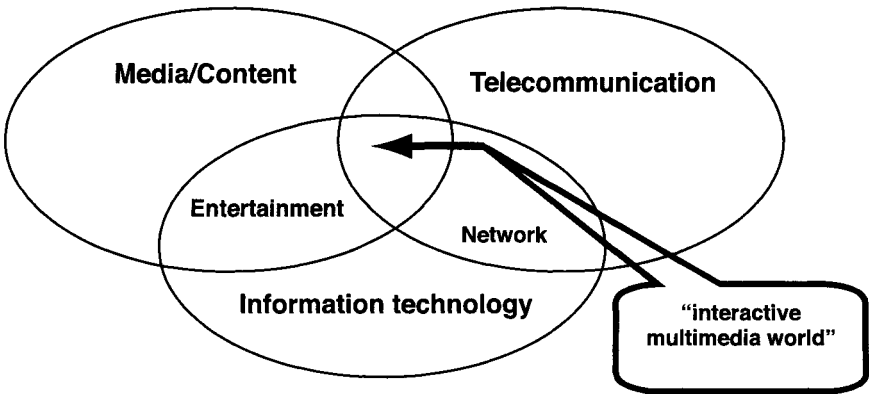


Figure 3: Market convergence

Endnotes

- 1 <http://www.ciao.com>.
- 2 These functions are offered by the CASIO Protrek Triple Sensor PRT-410T.
- 3 “*Unsere Untersuchungen legen den Schluss nahe, dass auch 2010 nicht die universelle Kommunikationsmaschine den Alltag prägen wird.*”
- 4 One of these initiatives is RosettaNet—an industry consortium helping to steer XML’s development. It has more than 400 members including Cisco Systems, Microsoft, Intel, and Hewlett-Packard. Further information can be obtained from: <http://www.rosettanet.org>.
- 5 B.A.T. Freizeitforschung is a social research institute focussing on the use of leisure time. It was founded and is financed by British American Tobacco.
- 6 Enhanced Messaging Service: An advancement of SMS, that will lift the 160 symbol-border by linking several SMS.
- 7 Multimedia Messaging Standard: An advancement of picture and text transfer in mobile networks via SMS. MMS will be enabled by increased mobile-bandwidth.

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