'Multimedia application & its challenges'

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Convergence of Telecom and Broadcasting and use of multimedia in various forms are starting to become a reality. Experts in the Telecommunications, information technology and media industries are currently preoccupied with ongoing mixing up of their formerly discrete worlds, not to mention the approach of what might be termed the multi-media millennium. The advent of advanced communications services and the integration of hitherto separate devices like the telephone, the television and the PC will bring momentous challenges and changes in the communications industry. This includes the telephone companies who might find their conventional business under threat from this convergence. In commercial terms, it is possible that converged whole will be worth much more than the sum of the parts. Likewise, multimedia holds the promise of creating a whole new set of industries for the coming future.

Notwithstanding almost nothing can be taken for granted. How far convergence will progress is an open issue for discussion. Getting a handle on what multimedia is, or might become, is a challenge. The convergence of television, personal computer and telephone into what some believe will be one consumer product has disorientated all three industries, not to mention the consumer. Many observers of the multimedia market see in this confusion the potential for a re-run of the battle between VHS and Betamax videorecorder standards, one of whose outcomes was to leave some customers with obsolete equipment. One recalls what has happened in the UK satellite broadcasting market and issue the same kinds of warnings.

So revolutionary is the kind of integration we are talking about that it is almost certain that systems developers will at some point or other run into technological deadends. The industry shall have to model its emerging systems to meet the customer requirement.

If it can manage to do so, it will be more able to develop the services and build the equipment which the user will find acceptable, which will be compatible and will not immediately become obsolescent.

Combining telephone and television has to be very thoughtfully done. Although it is quit possible to put both devices into the same consumer product, it is not so clear they will be acceptable to the user or for that matter the broadcaster.

It is established that while television is a mass medium, the telephone is not. Although the television has traditionally been very good at creating consensus and conveying information on products and services to a large number of people - providing a useful tool for advertisers in the process - however it is inadequate for establishing a one-to-one dialogue.

Merging television with the telephone certainly creates the possibility of interaction. However, it is unlikely that the output of television broadcasters can be fragmented to such an extent that viewers are able to have a completely personalised information stream.

Television would therefore fail to be an effective medium if personalised information stream is required. The costs involved in trying to reach a larger number of consumers through a fixed infrastructure such as the existing telephone network will also prove prohibitive.

It may therefore be necessary for the mass media element, i.e., the television, and the interactive element, the telephone, to remain operationally as they are and for an interface to be built between the two - which is, perhaps, where the power of the PC can best be utilised.

Telephone companies may find themselves threatened in the new age of advanced services. As communications services blend voice with other forms of communication such as data exchange, video and interactive services, this may have a negative effect on the telephone services and erode the market position of telephone companies.

As the telephone itself is blended into computer processing and broadcasting equipment, the balance of power may shift away from the network provider towards the broadcaster and the content owner. Pressure will be exerted on telephone companies to radically alter their organisations and their tariff structures to better suit the operation of those wishing to exchange multimedia information, rather than simply maintain voice contact.

Many companies are joining forces to acquire new skills and expertise, to share the huge costs of developing and installing multimedia infrastructure. The following major categories of companies are involved in developing the multimedia infrastructure to facilitate convergence:

Cable operators/broadcasters who control local networks equipped with very high transmission capacities ideal for multimedia;

Programme producers form the audio-visual sector, electronic information services and applied software. These providers of content are extremely important and might hold the key to the success of multimedia services with the variety and wealth of information they can provide;

Telecommunication operators who have their financial strength form the strong positions they have built in national markets. The prospects of multimedia are pushing these carriers to make huge investments to upgrade their networks;

Hardware and software manufacturers together with network operators.

Regulatory environment

While recognising that the convergence of Broadcasting and Telecommunication has been possible because of the advancement in wideband transmission media over satellite as well as hybrid/fibre coax (HFC) cable telephone, it is equally important that appropriate regulatory environments be created to promote rapid convergence.

The regulatory bodies in various countries are in the study process and are debating on the various technical and regulatory options based on the technologies available for multimedia infrastructure.

Amongst these, United Kingdom has taken more initiatives than any other country. While the Telecommunication operators in the UK are currently prevented from using its telecommunications networks for broadcast entertainment programming, in the UK, regulations were developed which removed restrictions on cable operators to provide services only in conjunction with British Telecom and Mercury. The cable operators in UK have been given the right to interconnect their networks and shall have no longer to request a determination from the industry regulator Oftel on the terms of interconnection with a long distance provider.

During August 1995, Oftel issued a consultative document titled "Beyond The Telephone, The Television and The PC" which stressed on the need to evolve "Regulation of Convergence". Regulatory issues to be addressed included open access, navigation and numbering, universal service obligations, information on service use standardisation, integration and market dominance.

It is believed that regulation of converged networks have international aspects. To encourage investment, it is therefore necessary that appropriate legislation, regulation, and watchdogs are in place.