

The Future of Digital Entertainment

Interactive TV Revisited

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The arrival of interactive TV (iTV) has been repeatedly declared over the past 25 years. Most recently, industry analysts speculated on the breakthrough of iTV as a result of digital computer technology merging with traditional TV. Though mass adoption of iTV is yet to occur, there has been considerable progress. The Internet will play an important part in shaping iTV.

A quarter century ago leading media and hi-tech corporations were convinced that a new phase in TV had arrived: Interactive TV (iTV) – the ability for viewers to not only receive and enjoy TV shows but also actively engage in two-way communication by requesting particular programs, shopping via TV sets and exchange information with other people. During the twenty-five years since the launch of iTV, many trials have been undertaken to provide such interactive services to a mass audience. Stephen Keating, author of *Cutthroat*, a book about the battle between the satellite and cable TV industries in the U.S., refers to these trials as follows: "The premise was always the same, that television could be transformed from a passive viewing device into a tool for home shopping, earning graduate degrees, paying bills and ordering pizza."

Despite enthusiasm within the entertainment and computer industries, results from early iTV trials were disappointing and the trials were dropped after short test periods. From the Qube trials in Columbus, Ohio, in the late 70's to Time Warner's Full Service Network in Orlando, Florida, to Disney's Americast and TeleTV venture with several U.S. telecommunications giants in the mid 1990ies, iTV projects were largely unsuccessful. The failures diminished hope in iTV; even many hi-tech optimists concluded it would not materialize. It seemed iTV was doomed to die before it was born; its legacy was destined to be an unrealistic, over-hyped concept that fell far short of its promises.

Unfulfilled promises

Why didn't iTV succeed? The answer is simple: The main reason for failure is that TV viewers often don't want to interact via TV. The success of TV is largely based on the fact that viewers simply can relax and enjoy TV programs without doing really anything. Another reason for the failure of the early iTV trials is that users did not get what they wanted. The promise that interactive TV would offer users a great selection of millions of video and audio programs at a reasonable price was never fulfilled. Not only was the breadth of content limited, the use of iTV devices was costly and cumbersome.

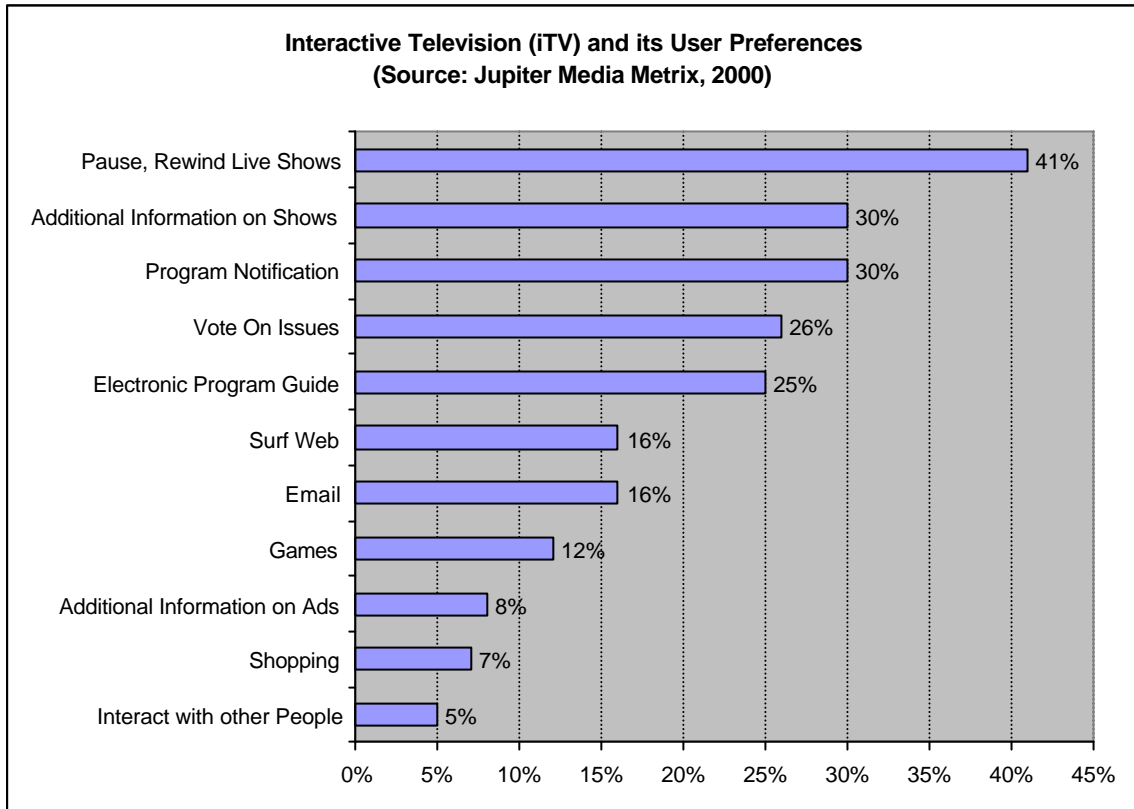
While early supporters began to lose confidence in iTV, they watched in envy the continuous success of traditional TV. Despite the increasing importance of computer technology, supporters of iTV had to acknowledge that traditional TV remained the dominant mass medium for most consumers. At the turn of the century, twenty-five years after the first iTV trials, people still turned to aging TV sets for entertainment and relaxation, rather than computer and hi-tech appliances.

Here comes the Internet

As interest in iTV waned industry analysts were encouraged with the rise of the Internet in the early 90s arguing it would resolve some key problems of the early iTV trials. Robert La Franco of *Red Herring* magazine summarizes their view: "The Internet as a commercial medium is paving the way for interactive entertainment."

The global network of the Internet is a significant advantage with its access to a broad range of information and entertainment. Market studies have continually shown that access to compelling content is vital for iTV users. Interactive TV would not only help users retrieve content, but also simplify its consumption with features such as pausing and rewinding live shows, reception of additional information about shows, and program notifications – all features that rank high among user preference.

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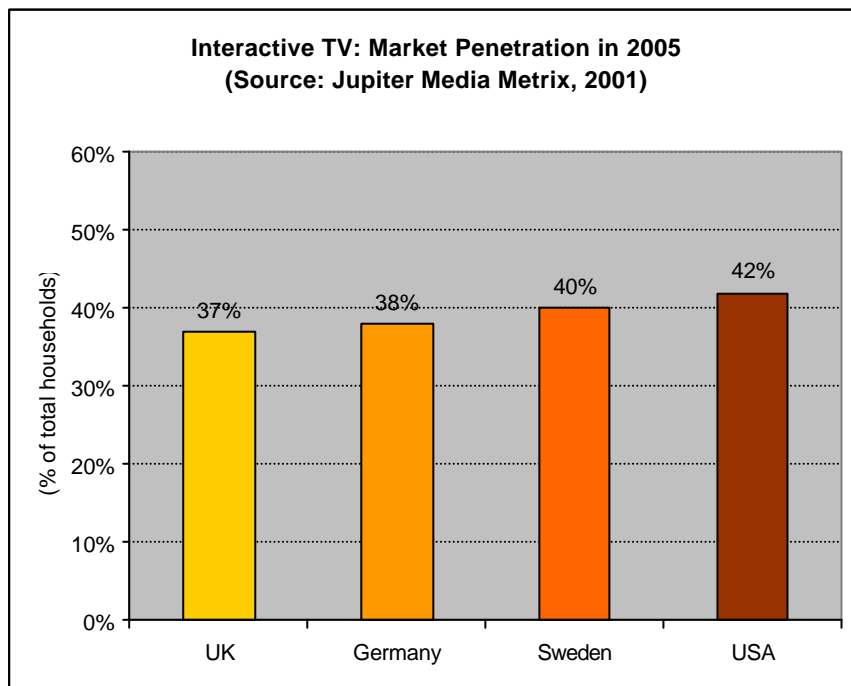
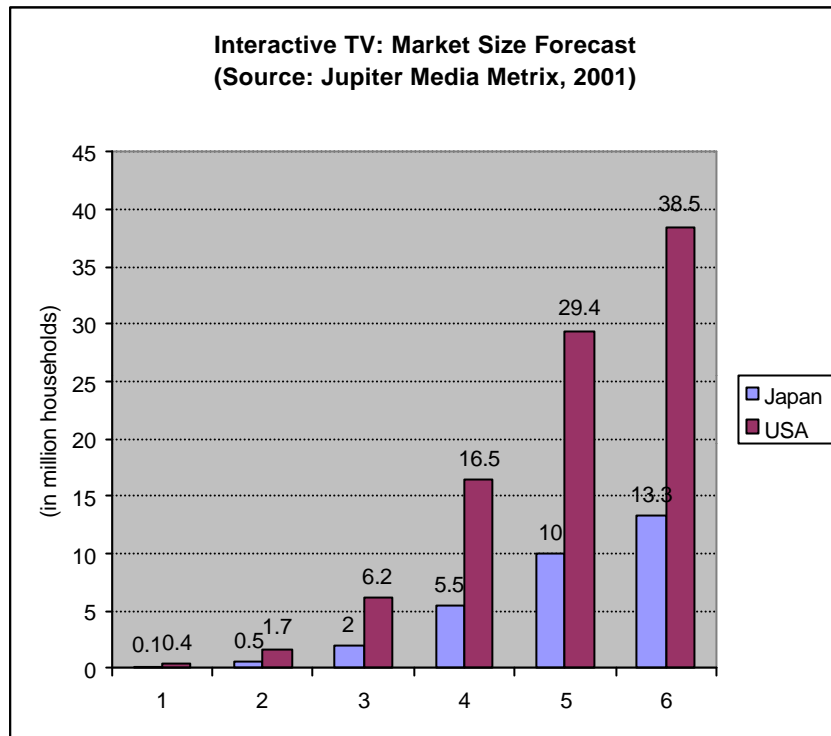


Rapid adoption of the Internet has led some analysts to issue optimistic forecasts for iTV. Analysts believe iTV is undoubtedly the key mass medium of the future that will connect millions of people with each other. David Card, Lead Analyst of Jupiter Media Metrix, says: "Interactive TV (iTV) will have as significant an impact on the consumer economy in the first decade of the 21st century as TV had in the 1960s." And analysts Spencer Wong and Thomas Shehaan of the investment bank ABN-Amro note in a iTV report issued this summer: "It is clear to us that television is undergoing a profound sea of change. We believe we are witnessing a metamorphosis as revolutionary as the introduction of color TV."

Europe is leading, U.S. and Asia are growing

The current market situation shows that penetration rates of iTV are highest in European countries, considerably exceeding North America and Asia. The U.S. and Asia are at best 12 to 24 months behind Europe, yet the growth of iTV in these regions is expected to be significant over the next few years. According to a study by Jupiter Media Metrix, there are approximately 1.7 million households equipped with iTV in the U.S.. Within four years this number is estimated to increase to almost 40 million households. This represents a compounded annual growth rate (CAGR) of over 82%, which is almost ten times the CAGR of Internet Service Providers (ISPs) during the same time period.

Similar growth trends are predicted for Japan- the market with the highest iTV penetration rate in Asia. In the land of the rising sun the number of iTV households is expected to increase from about a half million today to more than 13 million over the next four years. Due to such extraordinary growth rates, iTV penetration among households in the U.S. and Japan will catch up with key European countries such as the UK, Germany and Sweden. All these countries are projected to have iTV household penetration rates of 35-45% by 2005.

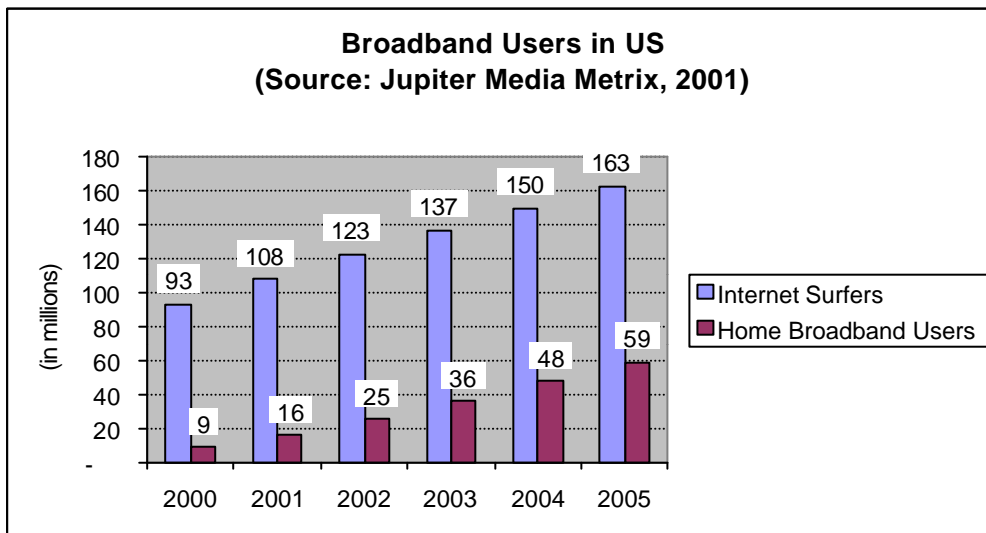


The primary growth area of iTV in the U.S. is in cable systems. The large base of existing cable network users will enable a fast rollout of iTV services. According to forecasts by Jupiter Media Metrix, almost half of all households expected to have iTV capabilities will use cable systems to access digital TV services and the Internet. By the end of 2001, cable companies Charter and Comcast predict they will each have more than 2 million digital subscribers with iTV capabilities, while AT&T estimates it will have more than 3 million such users. Satellite is another significant distribution channel for iTV, as Spencer Wang and Ashley Griffith of ING-Barings bank point out. DirectTV and Echostar, the two main satellite operators in the U.S., are expected to sign up large numbers of iTV subscribers in remote areas where cable systems are unavailable.

Cable systems will likely be the major driver of iTV adoption in other countries too, even if their infrastructure is not as sophisticated yet as in the U.S.. For example, according to a study conducted this summer by Asia Market Intelligence (AMI) 84% of all inhabitants in China have cable TV in their homes, compared to only 1% with satellite TV. The high penetration of cable TV in China is astonishing and will certainly help spur the demand for iTV among the Chinese population. Not surprisingly, some Chinese cable operators such as Shanghai Cable have already started iTV trials.

iTV based on the Internet protocol (IP-TV) relies heavily on broadband connections since multimedia content is often data rich and requires large pipes and well-built network infrastructures. Hence whether IP-TV becomes a successful service partly depends on the rate at which Internet users switch from narrow-band to broadband Internet access. Most people in the U.S. continue to access the Internet through narrowband connections, though the number of surfers accessing the web via broadband connections is growing. In fact, with 15 million home users, the U.S. has the second highest penetration rate of broadband Internet access worldwide.

It is expected that the number of users in the U.S. with broadband access will grow to almost 60 million by 2005, or roughly 30% of all Internet users. The U.S. trails only Korea where the percentage of home users with broadband access is the highest in the world. In addition, some companies such as Advent Networks are already working on technologies that provide users Internet access with much higher data capacities than broadband (dubbed Ultraband) that will make IP-TV services such as video on demand more attractive and easy-to-use. For example, a full movie can be downloaded in approximately ten minutes instead of several hours that are needed using conventional broadband access.



Will it really happen this time?

Skeptics continue to question whether the Internet will transform iTV into a dominant mass media service. Considering the many failures of previous iTV trials, the optimistic growth forecasts and renewed excitement regarding iTV should be taken with a grain of salt, they say. Although iTV will likely get a boost from the Internet, quick mass adoption remains questionable.

The critics argue that the success of the Internet won't automatically transfer to iTV and that it will take more than a global network of surfers to transform iTV into the next mass medium. A low level of user involvement is frequently mentioned as the reason for the slow progress of iTV. For example, consumers rarely, if at all, use many of iTV's advanced features such as search and shopping features finds a report by Statistical Research Inc. (SRI). Numerous studies revealed that the limited use of features not only applies to iTV, but to other mass media services and devices as well. Researchers found that people typically use only the core functions of devices such as radio tuners, video recorders and TVs. Video recorders, for example, are primarily used for playback of videos and rarely for recording of programming due, in part, to the complexities of setting the timer and selecting the appropriate program to be

recorded. Also, market research consistently demonstrates that the majority of TV viewers limit their consumption to a few channels.

The technologies necessary to turn iTV into a successful medium are available but it remains to be seen whether users consider TV sets as the appropriate device to interact and communicate with other people. Such changes in user behavior take time. The success or failure of this new phase in iTV cannot be judged too quickly. In addition, cable companies and other providers of iTV services are in a relatively early experimental phase. "...Getting from here to there may still take some time because interactivity is still not in the forefront of new rollout plans by most of the cable operators", as media strategy analysts Dennis Leibowitz and Reed Kenyon of the investment bank Credit Suisse First Boston note.

Most new technologies eventually find an audience, but some ultimately turn out to be not successful. In the end, users will decide whether new interactive digital services will be part of their everyday life. After all, the desires and preferences of people continue to shape advancements in technology.