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PROGRESS IN PUBLIC ACCESS INFORMATION SERVICE: A GLOBAL PERSPECTIVE

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ABSTRACT

The convergence of information technology and telecommunications has led to the development of public access information service on a global scale. Through the application of videotex technology, users are able to call up information and transaction services via a personal computer or special terminal. In spite of the technological capabilities, the spread of various versions of this innovative service around the world has not fulfilled the optimistic growth forecast by proponents.

There are reasons for the lack of public enthusiasm. These were high cost, limited usefulness and consumer reluctance to use complex technology. In many countries where public information services are available, the public found the cost using the service too costly, the information provided not useful, and the operation of the services difficult. With the consequent lack of a critical mass of users, the services could not attract sufficient numbers of information providers to supply a wide range of services, and the proliferation of the service and the accompanying equipment could not enjoy the benefits of large economics of scale. The exception was France, where the Government developed an information network infrastructure before the launch of the information service, and combined this with the offer of fee territorm which contributed to the creation of a mass market unparalleled in other countries.

The development of public access information services will have to be more responsive to the views and requirements of the general public. In this regard, it is important to focus on the creation of a wide range of useful and usable information and transaction services, accessible with minimal difficulties, and through reasonably priced terminals. In this way, the creation and cultivation of a critical mass of consumers will contribute to a less uncertain future.

INTRODUCTION

Global access in public access information services has been aroused since the first videotex service, Prestel, was introduced in the United Kingdom. As a result of innovations to emerge as a result of the convergence of information technology and telecommunications, there was much excitement and optimism expressed by proponents and supporters of this new found public information service. This paper will survey the progress of public access information services. The spread of this new innovation will be reviewed from a global perspective, the problems encountered will be examined and prospects for future discussed.

PUBLIC ACCESS INFORMATION SERVICE

Information technology (IT) has contributed to the increased production of new data and to their instant communication. The convergence of IT and telecommunications has led to the development of a broad range of information services which may be offered to the general public with direct access from home or public areas.

Public access information services (hereafter referred to as PAIS) has emerged with breakthroughs in videotex technology. Access to an information database from home may be established by a personal computer or special purpose terminal linked to a central computer. The link between the source of the videotex service and the receiver may be made conveniently, over telephone lines, television cable, satellite, television, and broadcast television. Videotex technology is different in that it is interactive in nature. Interactive videotex permits two-way communication between users and the central computer database so that users can call up, on demand, the images and information they wish to see. Subscribers to the service, by linking their personal computer via telephone lines to a central database, may access a wide variety of information services. This may contain news headlines, theatrical or travel schedules, classified advertisements, financial data, or electronic mail, to name a few of the available options.

EARLY DEVELOPMENTS

The first PAIS, developed with the videotex system, named Prestel, was demonstrated in the United Kingdom in 1975. Field trials in 1978 was followed by market launch in late 1979 (Schneider et al. 1991). The early 1980s saw similar trials in Europe, North America, and Pacific countries. The eventual spread of such PAIS is well illustrated by the various information services now available around the globe as shown in Table 1.

<table>
<thead>
<tr>
<th>Country</th>
<th>Information Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>Prestel</td>
</tr>
<tr>
<td>France</td>
<td>Telelax</td>
</tr>
<tr>
<td>Germany/Austria</td>
<td>Bildschirmtext</td>
</tr>
<tr>
<td>Italy</td>
<td>Videotex</td>
</tr>
<tr>
<td>Sweden/Belgium</td>
<td>Videotex</td>
</tr>
<tr>
<td>Finland</td>
<td>Teletext</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Videor</td>
</tr>
<tr>
<td>Denmark/Norway</td>
<td>Telodatas</td>
</tr>
<tr>
<td>United States</td>
<td>Viewtron / Computerv</td>
</tr>
<tr>
<td>Canada</td>
<td>Teledact / Lex</td>
</tr>
<tr>
<td>Brazil</td>
<td>Telex</td>
</tr>
<tr>
<td>Japan</td>
<td>Captain</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Chinese Videotex Service</td>
</tr>
<tr>
<td>Singapore</td>
<td>Teleview</td>
</tr>
<tr>
<td>Australia</td>
<td>Viatel</td>
</tr>
</tbody>
</table>

As a public information service, Prestel, was developed initially as an information retrieval service, as was the experience with other services such as Teletel, and Teletel. In the process of development, there was an eventual shift from conceiving it merely as a medium for disseminating information to a medium for organizing transactions (Wilson 1986). Instead of creating a channel of packaged information, the application of the videotex capability enabled the creation of a virtual marketplace, within which numerous information service providers could sell their goods and services. The opportunities opened up by PAIS enabled the offering of such services as teleshopping, travel entertainment, and home banking. This has contributed to the view that the successful marketing of PAIS is contingent upon the development of interactive transactional services and not just on their promotion as an information retrieval technology.

DEVELOPMENT PROBLEMS AND PROSPECTS

Public response to marketing efforts to launch the various versions of PAIS has fallen far short of expectations all around the world, with the exception of France (Porelle 1988, Schneider et al. 1991). In a majority of the countries where PAIS were introduced, the level of public acceptance had been badly
overestimated. In several instances, such as Pressel, Bildschirmtext, Viewdata and Teledaten, the results of the commercial launches were interpreted as failures. The reasons for the lack of enthusiasm for PAIS had been traced to three main factors: high costs, limited usefulness and customer reluctance to use complex technology (Forrester 1989). These three problems encountered by PAIS will be addressed in this section.

In the development of PAIS, an important problem that needed to be resolved may be appropriately described as the "chicken and egg" problem (Scheider et al. 1991): the public could not find any reasons to use PAIS because the services offered were not seen as needed or valuable, and the services offered were not sufficiently attractive and appealing to the public. Development of information providers will not invest in the appropriate equipment and broaden the range of services until they are satisfied in their assessment that there are enough potential users to constitute a profitable venture; in the same way, the technical equipment required to connect and operate PAIS will only be installed in large quantities if they are cheap, but low prices will come only when there is a strong demand to enjoy the benefits of large economies of scale to reduce production costs.

The enormous development costs entail the involvement of large corporations, the national governments, or a partnership of both. The lack of a mass market at the early stage of market development reduces any economies of scale for both manufacturers of terminal equipment and providers of information and transmission services. Considerable capital, has been, and will continue to be required in order to fine tune PAIS to meet market requirements and to justify the risks of investment in a limited and uncertain market. Only the largest corporations can raise this capital and justify these risks, as was the case in the United States and Canada where major financial publishing, retailing, and computer corporations were involved (Wilson 1986).

For a broad based public information service to succeed, it has been advanced that an established industry is necessary (in the case of PAIS, the telecommunications industry). The national government or a government sponsored organization such as the relevant telecommunications authority has been mentioned as the necessary external force. In countries like Germany, United Kingdom, Canada and Japan, such organizations have played a major role in subsidising pilot projects, field trials and market tests to develop PAIS (Gabriel 1989). The participation of the French government in the development, promotion and demand stimulation of Teletel and the accompanying Minitel terminal network has often been advanced as a successful example. Third, the French telecommunications authority undertook an aggressive information network infrastructure development program before the launch of Teletel which was conceived around a low-cost home terminal (Minitel) that was supplied without direct charge. The offer of a free terminal to access an electronic directory and other telephone related information gave Teletel a significant triggering effect which contributed to the creation of a mass market unparalleled in other countries. This was in contrast to approaches in Germany and the United Kingdom where the public found the cost of subscribing to and using the service too high and consequently, left the information service signifying, if not declining (Scheider et al. 1991).

The concept still from a more information service to a transactional service was the final step towards identifying the real market for PAIS. Public use and acceptance will be contingent upon the development of a broad range of interactive transactional services and not upon the promotion of PAIS as an information retrieval technology (Wilson 1986). A marketable PAIS will have to incorporate a package of diverse services. A commercially viable service will have to consider further development of the area of transactional services.

A key transactional service will be e-shopping. Although the social and psychological aspects of shopping may be abstract (Forrester 1989), consumers who value convenience will be the natural market for such services. Other services will include travel, entertainment and financial transactions. Information providers could offer a wide variety of information and transactional packages to the consumer by adapting the specific interactive nature of the services. Consumers might probably value being able to access such diverse services through a single medium in the comfort of home.

As more and more members of the public become aware of PAIS, its potential benefits will be realized and the service will reach out to novice and casual users. A new electronic service of this nature will be difficult to understand for such potential users because such a new service might go beyond their understanding or imagination. The general public cannot be expected to be like engineers or scientists, similar as they are not professionals in this area of information technology. These services are often more difficult to learn and to use than people would like them to be. Unlike the professionals, they will not take the time or spare the effort to learn how to use the service, and therefore, are unlikely to read voluminous manuals with great care, or to put up with cluttered interface displays and awkward dialogues. PAIS utilising videodisc technology are not easy to use, are slow and inflexible (Forrester 1986). A survey of PAIS in the United States revealed serious difficulties with the visual clutter and improper services offered through all the videodisc systems (Jones and Nelson 1990). Access to the information services available were difficult because the data bases available were badly indexed and hard to use.

The design of a viable and effective PAIS has to give due consideration to the needs and requirements of potential users who are involved in the system. Such needs and requirements have to be incorporated into the system at a very early stage of development and continue to occupy a prominent place throughout the design, construction and operation of the technology. Since the general public are expected to use the systems, it is they who have to operate the equipment which have been developed and they who have to interact with the system to make them function. Moreover, the public are called upon to adapt their habits to the demands of IT systems and if they are reluctant to accept such changes, then the demand for PAIS will not materialize (Blackler and Oborne 1987).

In summary, the appearance of PAIS around the world has not fulfilled the predictions of growth usually associated with technological innovations. Although advances in information technology may resolve the technical difficulties, the key players in the IT industry have to coordinate their efforts to render the service more affordable, to provide a broader range of services and to improve on the design of the system so that it is easier to use.

CONCLUSION

The development of information services has not provided any strong encouraging signs for the global prospects. Predictions of the inevitable growth of PAIS has to be received with caution since the early stages of development of PAIS provide adequate evidence of the need for these services to create and cultivate a critical mass of consumers. The process of testing and developing markets for these radically new innovative services is a relatively recent phenomenon. The problem of imaginatively creating a market still remains since a clear picture of the likely market and the appropriate services to offer has taken time to emerge.

Although the initial development of PAIS has largely been in the hands of specialists technicians, the need to be more responsive to users at the present stage is compelling. The way in which the general public respond to the introduction of new technology will impact on its future prospects. Due consideration to the feelings and views of the ordinary users should be factored in at the design and development stage, rather than wait until after the technology has been installed, at which time, there may then be little opportunity of going back to change or modify the system.

Despite the technological potentials and possibilities, there is clearly a need to focus on several important areas. Not only must a wide range of useful and usable information be available to broaden the market appeal, these information must be accessible through terminals which are priced within the reach of the ordinary users. When eager and willing users of PAIS are found, it is imperative that they do not have to endure too many difficulties at the time of interaction with the system. At the national level, an environment that supports the development of the telecommunications infrastructure must be in place, and combined with a strong commitment to further improve and develop the service and future prospects.

REFERENCES


