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Minitel Versus the Internet in France

Ruthie Kerr

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Southern Scholars Project
Professor Ott
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Introduction

The Internet has captured the intrigue of the world by making information easily available. The United States readily adopted this technique, but France has been slower to adopt the predominant Internet because of a pre-Internet system known as Minitel. Minitel is a proprietary videotext terminal used in French commerce and personal life.

My first experience with Minitel began last year as a language student in France. I missed normal business hours, but still needed to make a reservation for a ferry Marseilles to Corsica. Due to early departure, it was impossible for me to call and make a reservation in the morning. My French friend offered a solution--Minitel. I was able to sit down at a little terminal and make a reservation for two student fares to Corsica and back. I chose what city I wanted to depart from, what hour I wanted to leave, and the category of pricing that was right for me. My trip was planned within thirty minutes of my friend's suggestion.

Purpose

After my experience, I was intrigued by Minitel. I didn't understand the little terminal that could do so much, but was nothing like the Internet that I was familiar with. To learn about Minitel, I decided to investigate what Minitel is and how and why it was invented. In researching these topics, I discovered that there is a debate in France as to whether Minitel or Internet is better. While it is clear that Minitel definitely has some strengths over the Internet, it lacks a global audience. I found that Minitel is now inhibiting the growth of newer technologies, when it was actually created to promote new technology. By describing the Minitel, exploring its development, and examining the situation of Minitel versus the Internet, France's technological paradox will become evident.

Description of Minitel

An examination of the Minitel, its services and users, will explain what Minitel is and why it is successful. In the beginning, the Minitel terminal was introduced as a free electronic replacement of the paper telephone directories ("Qu'est-ce que"). For a French family to acquire a Minitel terminal was a bit like receiving a free computer. The French found a "friend." Today, it remains a principal tool of communicating in France and a reliable means of electronic commerce (Kraut, Levecq, Lucas, & Streeter, 1995).

Introduced in the early 1980s, the original Minitel was a black and white 23-centimeter display. It consisted of an alphanumeric keyboard, which included the function keys *Envoi* (Send), *Retour* (Back), and *Suite* (Next). A modem was integrated into the terminal (Homepage, 1997).

Oliver Anstett, assistant vice president at the Multimedia Division of France Telecom, describes Minitel as a "useful, everyday tool" for the French (Yoshido, 1997). He observes that a lively online community has flourished in France for over 15 years. In 1997, Minitel was in seven million homes (Coleman). Minitel has woven itself into 20 percent of private households (Kraut et al., 1995).

Minitel offers something of interest for everyone. In 1995, there were 25,000 different services offered through Minitel. In 1996, Minitel terminals were accessed for 87 million hours of connection. The profit yielded by France Telecom was six billion French Francs, about $1.2 billion.

According to Andreas Pfeiffer (1998), "Just about everybody has a Minitel, and lots of services run reliably, albeit slowly, on the antiquated technology. Online banking? I've done it for years. Shopping from a virtual supermarket? An old hat. Reserving your plane or train ticket

online? Well, is there another reasonable way?." When comparing Minitel to other research methods, Pfeiffer says, "When people look for a used car . . . or the quantity of snow at a ski resort, Minitel does the trick better, faster and more reliably."

Of course, all of these services come with a fee, although there are three exceptions: the French White Pages directory, a presentation of France Telecom, and a guide to services offered through the Minitel (France.com).

Minitel subscribers use the electronic directory more than other services, making it the world's most heavily consulted database with more than 500 million connections a year (Thompkins, 1990). The electronic directory is very extensive as Art Brothers discovered. "When in France I used Minitel to access directory information for Salt Lake City. In less than a minute, the screen displayed my three telephone numbers--including two that are supposedly unlisted" (1996). Banking services are used by nearly a fifth of account holders with Credit Commercial de France, a medium-sized bank (Thompkins, 1990). Television stations even run Minitel-based surveys (Cats-Baril & Jelassi, 1994). In addition, services are available like the Michelin guides (tourism), Club Med travel, practice exams, agricultural advice, economic information, and database searches.

The educational system utilizes Minitel at all levels. Teachers submit weekly lesson plans to their principals, and the Ministry of Education can log on and look at the lesson plans too (Yoshido, 1997). *Baccalaureat* exam results are posted as well, providing students finishing high school an easy way to access their scores. After receiving the results, students with passing scores can then file their university applications on the Minitel (Thompkins, 1990). During a pilot project in California, parents could monitor their child's education by accessing homework assignments, cafeteria menus, and class attendance ("Technology", 1993). One university French

professor suggests that Minitel can be used to help students understand what business is like in France. "Minitel services offer an innovative, interactive, and authentic way to involve students in creating a small business, encouraging them to master new concepts and vocabulary in context and to understand and produce authentic language" (Abrate, 1994).

Recently, a new service called Minitelnet was added. Minitelnet is an e-mail service provided through Minitel, including an e-mail address and mailbox to users. Minitelnet's e-mail service is available from any Minitel throughout France (Yoshido, 1997). The service costs about eight cents per minute and had attracted 16,000 users as of 1997 (Yoshido, 1997).

"Here's the breakdown on Minitel usage: 25% banking services; 12% transportation (information, booking); 9% other; 8% mail order sales; 6% professional databanks; 4% education, training; 4% general databanks; 4% tourism, travel" (Brothers, 1996).

Newer Minitel terminals offer expanded services, but they are not free like the original models. The terminals now look like the e-mail/Internet phone terminal that is available the United States consumer market. "Since 1992, the terminal comes with a smart-card reader that reads ATM cards, for banking at home" (Yoshido, 1997). The Sillage 1000 model is a flat-screen Minitel phone combination available in two colors. Its features include storage for 200 telephone numbers, automatic calling, full access to Minitel services, and call forwarding ("Flat-screen", 1997). Rental is available or purchase for around $250. France Telecom describes the Magis Minitel's features, "the integrated On-line Assistant makes using Magis child's play, while the smart card reader opens up a wealth of exciting new services. Available either in rounded or elegant angular design, with a choice of six colors, the great-looking Magis terminal fits with any interior" ("Magis", 1997). The Magis retails at around $370 while monthly rental is about $18.

Minitel's diverse and quality services make the system a success by appealing to a range of users. "Minitel is the world's first and only example (as yet) of a successful mass-market network venture" (Kraut et al., 1995). Many users and the variety of services allow Minitel to make money.

Development of Minitel

Minitel developed because France was falling behind in technology. Even telephones were difficult to obtain in the 1970s. The French government developed Minitel to promote technology among the French and to provide a means of easily accessing information.

Several key ideas were behind the development of Minitel. In the 1960s, the United States denied France the right to import an IBM mainframe computer, alarming the French government that it had fallen behind the United States in technology (Cats-Baril & Jelassi, 1994). This, in addition to wanting to be a leader in technology, influenced French President Giscard d'Estaing to commission two researchers to develop a computerization plan for France. Simon Nora and Alain Minc accepted the challenge and published what became a best seller (Cats-Baril & Jelassi, 1994). Their central theme was the necessity of developing a way to increase access to information for everyone. The access would "increase national productivity and competitiveness, and improve the ability to respond to an increasingly fast changing environment" (Cats-Baril & Jelassi, 1994).

France's technology push was also needed in the telephone arena. In 1974, people were waiting over four years to receive a new telephone line, and France had one of the lowest ratios of phones per person in the industrialized world (Kraut et al., 1995).

Needing technological innovation, France developed a strategy to become competitive in the technical arena. Gerard Thery, director general of telecommunications, developed the idea of

Minitel to increase access to technology. He is known as "the father of Minitel" (Vedel, 1996). This project fulfilled the goals of providing greater access to government and commercial information, benefiting society in many ways, demonstrating a combination of telecommunications and computing, avoiding technological obsoleteness through flexibility, and earning a profit (Cats-Baril & Jelassi, 1994).

Following its typical practice, the French government subsidized and facilitated the project (Cats-Baril & Jelassi, 1994). "The Minitel plan . . . rests on . . . the stimulating role played by public authorities in the dialectics content/ conduits" (Vedel, 1996).

While the Minitel was developing, the telephone market was booming. Seven million new telephone lines were added between 1974 and 1979 (Cats-Baril & Jelassi, 1994). This left the telephone directory in chaos, being obsolete before it was printed. This problem would be solved with Minitel's electronic telephone directory.

The electronic telephone directory proved key to the success of Minitel. "Most telephone users were aware of how hard it was to obtain telephone number information through an operator. [This problem led] to an effort to sell the system as a response to a specific customer need" (Cats-Baril & Jelassi, 1994). Minitels were readily accepted because they provided accurate telephone numbers.

The French government subsidized the development of the Minitel system, but not the actual services provided by individual companies ("Cluck-click", 1995). Because of this government involvement, France Telecom's monolopy did not have return on investment pressures (Cats-Baril & Jelassi, 1994). The ability to quickly change policies, pricing, and conditions benefited France Telecom by providing easy changes to adjust for current market conditions (Cats-Baril & Jelassi, 1994). Minitel grew into a network set up as a marketplace

(Vedel, 1996). It combined the valued French independence and engineering excellence (Cats-Baril & Jelassi, 1994).

Cooperation between separate entities allows Minitel to function. The system needs both a public operator to run the network and private providers to supply computers and programs (Vedel, 1996). The government facilitates this relationship. Minitel operates by accessing a Point d'Acces Videotex (PAV) through the telephone line. Minitel terminal does not run applications itself. This job is left for the service provider's computers because Minitel has no storage capacity (Homepage, 1997).

To access a Minitel service, the user types in a four-digit code along with an abbreviated name of the service. To access the national train company, the number is 3615 SNCF *(Societe Nationale des Chemins de Fer)*. This format is easy to remember. Minitel's services are open, giving all users access to source codes (Brothers, 1996). These unique numbers are "akin to our 900 numbers, where service providers set the rates they wish to have billed to callers" (Brothers, 1996). One difference is that France Telecom keeps one-third of all money collected.

Minitel created a solution for France's technology problem. By providing access to everyone, users found it easy to access information, and businesses earned profits.

Minitel versus the Internet

Minitel has dominated France since the early 1980s, but during that time, another network called the Internet has developed in the rest of the world. Minitel is competing with the Internet in France. While the Internet is global, Minitel offers solutions to many of the Internet's problems. An examination of Minitel versus Internet will highlight the strengths and weaknesses.

Although Minitel was the first widely used electronic network in France, users are demanding Internet services now as well. "French mail-order companies are gradually starting to

offer services on both the Minitel and the Internet" (Gee, 1997). La Redoute specializes in mail orders. As one of France's longest running Minitel services, La Redoute has been doing online orders since 1984. La Redoute receives nearly 8,000 orders per day, accounting for 17 percent of company profits (Johnston, 1997). La Redoute also has a website that averages 32,000 hits per week, but lacks the sales Minitel provides. Only 10 to 20 orders a day come from the Internet (Johnston, 1997). Minitel offers the possibility of large profits.

The format of the Internet and Minitel differ greatly. The Web is colorful and graphical while the Minitel is fully text with little color. "Most foreigners . . . [see Minitel] as an old, text-based appliance with little relevance to a world wired to the graphical Internet" (Yoshido, 1997). The non-graphical content of Minitel does not deter the French from using the services. Simon Loe, a press officer, seldom uses the Internet at home, but does use his PC Minitel emulation software to check out the latest promotional packages for his next vacation (Yoshido, 1997). France Telecom reported more than 1.5 million users have Minitel emulation software for their PCs (Yoshido, 1997).

Pfeiffer (1998) lists several strong points of Minitel. It is easy to use, reliable, absolutely secure, and provides the means for electronic business. When a Minitel user dials up the network, the call is billed according to the service--from between 30 cents to several dollars per minute. Facilitating this billing is the telephone company, France Telecom. "We . . . are the intermediaries for all financial transactions on Minitel," said Anstett. "This allows information service providers to avoid the difficult work of collecting money" (Yoshido, 1997). France Telecom then bills users for Minitel along with regular phone charges, paying part of the profit back to the company who runs the site. *Electronic Engineering Times'* Junko Yoshida (1997)

agrees, "Its ability to provide a range of services to every telephone owner and to capture the cost

of its services and bill them efficiently beggars anything the Internet has yet to accomplish."

While Minitel sounds like a perfect solution to many of the Internet's problems, the

system lacks some key solutions to universality. Radian Communication is an Internet

development company that offers its own assessment of Minitel. While touting the Internet,

Radian points out several problems with Minitel: it was established by the French government;

it's not global; the alphanumeric format of Minitel limits its impact; and Minitel is not a symbol

of being technically advanced. In contrast, Radian promotes the benefits of the Internet: your

company will benefit from the cyber-economy, your brochures and multimedia will be

distributed globally at an affordable price and you will maintain a direct and permanent contact

with your partners and clients ("Le circuit", 1996).

Compounding Minitel's difficulties is France Telecom's lack of technical innovation

(France.com). "Minitel is ill-fitted to compete against the onslaught of 'open' (and mostly free)

networks such as the Internet" (France.com). France.com continues in assessing the situation,

"France Telecom's sluggish response to the Internet has isolated the Minitel to any direct access

from the World Wide Web, and has made it more dificult [sic] for the French language to make a

mark on the network of networks." Only one of Minitel's vast resources is on the Web, the

national directory of White Pages.

Competing with the Internet, Minitel offers a billing solution to companies and provides

its users with an efficient system to find what they want. But Minitel lacks beautiful graphics and

a global marketplace.

Analysis

Although the Minitel seems superior to the Internet in many ways, France realizes that Internet is necessary to compete in a global economy. But a change to Internet highlights many of the same philosophical problems France had with technology in the late 1970s. Again, the government is trying to promote technology in France as well as French culture and language. Lack of personal computers, technological illiteracy and control of encryption are inhibiting the growth of the Internet.

Because of archaic thinking patterns developed during Minitel, the French government has inhibited the growth of the Internet in France. "It's illegal in France to encrypt any communication in any way unless you have permission from the government" (Pitta, 1997). This fact alone virtually blocks any possibility of electronic commerce other than the Minitel.

In addition, the Internet's growth has been slow because of "a lack of personal computers in most households, high connection costs, and currency obstacles" (Gee, 1997). In 1997, Europeans were paying almost twice as much per month as Americans, but in addition to the monthly fee, 30 cents per minute is also charged (Gee).

The lack of computers is evident even in the government. After French President Jacques Chirac released his own website, he asked a few weeks later what a PC mouse was (Pitta, 1997).

Even if the French President is computer illiterate, Prime Minister Jospin realizes the importance of changing France's technology. He delivered a speech entitled, "Preparing France's Entry into the Information Society" in August of 1997 at Universite de la Communication. Jospin had comments about France's falling behind in information technology. "The small numbers of households equipped with home computers and as-yet-limited number of French Internet users effectively attest to a lag," said Jospin (1997). He attributed the lag to a low level of computer

literacy, lack of information and quality services in French on new networks, and lack of support for technology driven companies.

While Jospin recognizes the problems, he also recognizes the role Minitel plays in French society. Because of the Minitel's user-friendliness and security, the public is expecting more of the Internet. But on the downside, Minitel hinders the development of new information technology (1997). Jospin's solution is to "encourage the progressive transfer of the vast national heritage of Minitel services to the Internet: in this the administration will have to set the example" (Desmond, Nelan, Sarotte & Scott, 1995).

To promote France on the Internet, the Ministry of Culture in set up a Website with cultural events in France, creative work, and museums (Finaud). Its France server "is to provide the general public with a real data base on many facets of life in France, in French and part in English, German and Spanish" (Finaud, 1996). The Ministey of Culture and the Prime Minister worked together to put the Bibliotheque Nationale on the Internet with free access to several collections (Jospin, 1997). Also, France Telecom launched Wanadoo, a commercial online service in French. "Seventy percent of French consumers speak only French," said Laurent Dreyfus of Espace Multimedia (Yoshido, 1997).

Altavista is helping the French on the Internet, through its automatic translator of English pages into French (Cazin, 1998). Other search engines like Yahoo and Lycos are offering language dedicated searches as well.

France.com is optimistic about expansion of the Internet in France. "French people, however, love technology and are avid consumers. You can expect a lot from France on the Internet" (Internet a la French). The site noted that domain name registration in France increased 230% in 1996. This could indicate that France could advance rapidly in the technology field.

"London-based market researcher Ovum Ltd. predicts some 3.2 million French households will have access to digital satellite interactive services by 2000" (Edmondson, 1997).

While the Internet is growing in France, Minitel seems to be fading. The government is now pushing to develop Internet sites in French, not improving Minitel technology. But lack of personal computers and technological illiteracy is making Jospin's job of promoting the Internet more difficult.

Conclusion

After learning what Minitel is and why it was developed, it is evident that its easy-to-use system, variety of services made, and effective billing methods make it very popular in France. Minitel promoted technology in the 1980s, but in today's marketplace, Internet is challenging Minitel's existence.

French online resources are largely on Minitel and not on the Internet. But Prime Minister Jospin's interest in technology could make Internet development as important as Minitel's development was during the late 1970s. It is time for Internet developers to reexamine Minitel and learn from its success.

The French have paid a price by using a system that the rest of the world does not support. France is caught in a paradoxical situation. The Minitel has led to France's being behind the rest of the world in technology, the same problem Minitel was created to fix.

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Appendix A

Various Minitels from the early 1980s to today.

Videotex terminal

Magis

Videotex terminal 2

Magis Club

Videotex terminal 12

Sillage

Apprendix B

Screen shots of Minitel.