Inventor's Story

In 1979 Michael Aldrich connected a domestic television by telephone line to a real-time transaction processing computer and invented what he called teleshopping. Today it is called online shopping and it is a fast growing world-wide multi-billion dollar business. This is the story of how it all began.

Preamble

Names of companies change over time and names of technical ideas change too. In 1979 Redifon Computers was a part of the UK Rediffusion Group of companies. In 1980 the company name was changed to Rediffusion Computers and in November 1984, under new ownership, it was changed again to ROCC Computers (Rediffusion's Old Computer Company). Nothing else changed.

In 1979, there was no such thing as on-line shopping so when I invented it I called it teleshopping, meaning shopping at a distance. Unknown to me, in 1977 in the USA, a TV selling technique called infomercials (effectively paid advertising programmes on TV with a pitchman urging viewers to make a phone call to buy goods) was also being called teleshopping. Over the years in USA TV terminology 'teleshopping' succeeded 'infomercials' and my 'teleshopping' – real-time transaction processing from home via a Television or PC – became 'on-line shopping'.

The Beginning

Early in 1979 a 26" colour television was delivered to my office on the Crawley Industrial Estate, Sussex UK. With it came a note that asked me for my assessment of it. The Rediffusion Group manufactured TVs so it wasn't unusual to be given prototypes for testing. It just wasn't one of our priorities (we were computer manufacturers), so the TV sat in the corner of the office, unused, for a couple of months. During that time we learned that it was a prototype of a new TV designed for a new service to be offered by the Post Office (PTT) called 'Prestel'. Prestel was a kind of Ceefax/Teletext service (available on UK broadcast TV providing news, weather and other text information) delivered by telephone line rather than broadcast by the BBC and ITV. Prestel was to be a paid commercial service (Ceefax / Teletext were free) providing information supplied by independent IPs (information providers).

We did a little desk research on the Prestel idea and business model and we could not see how to make money from such a venture and in any case we were too busy with our computer business. So the TV in the corner was not switched on.

One day one of our engineers asked if he could strip the TV and find out what was inside. This was not an unusual request from an engineer so I said 'be my guest'.

Some weeks later he came back and mentioned that he had found a chip set with a chip modem, a character generator and an auto-dialler that could hold four telephone numbers. We casually chatted about it and he said if we built a controller for one of our computers we could connect the TV just like Prestel. And that was it. At the time, we made real-time computers and visual display units (desktop terminals) for large corporations. There wasn't much demand for TVs from those companies.

In the summer of 1979, in the St Leonard's Forest behind our house in Colgate, Sussex my wife and I were walking our Labrador, Tessa. We were relaxing, talking as ever about our children, just the usual family domestic things and I was thinking that we could use some assistance with the boring weekly supermarket shopping expedition. All of a sudden I thought about the television and hooking

it up to the supermarket and getting the supermarket to deliver the groceries. I told her my idea and we rushed back to the house and I started thinking, writing and planning.

It was simple. We had a domestic TV that could communicate, a computer that not only could handle transaction processing from multiple users but it could also communicate (network) with other computers. We could build a networked real-time transaction processing system. Using an inexpensive domestic TV with a remarkably simple human interface, it could be used by anyone without training. With its ability to dial into any computer via a normal domestic telephone line and, using a standard communications and human interface , it could be used for multiple applications. It wasn't restricted to talking to just one computer for one function [like the airline reservation systems]. It had genuine open market independent teleshopping capabilities. And you could still watch TV! It was hugely exciting.

I then did two things. Firstly, thinking about the potential of the new idea from every angle, I wrote a large number of papers – a tumble and jumble of ideas. Some of the papers were eventually gathered together and published as a book in 1982 – 'Videotex – Key to the Wired City'. Secondly, I asked my inquisitive engineer to 'bodge up' a connection to link the prototype TV to one of our own computers. It worked!

And then I didn't know what to do. The ideas of teleshopping, telebanking, teleworking, tele-everything seemed like crazy science fiction. There was no market, no demand and no infrastructure. Perhaps it was all nuts. We had to get a reality check. Talk to real people. Get some feedback. Get some reaction. Yet we had to do it all in total privacy. No one must know what we were doing until we figured out what we should be doing.

So we hit on a plan. We would take our system to a small computer conference with a small exhibition attached in New Orleans, USA in the autumn of 1979. We would rent some space, set up, show the visitors and gauge their reaction. No-one would know us and we would leave town quickly when we were done. Three people would go to New Orleans. I would do the presentation talking, my wife would operate the TV and my inquisitive engineer would make the 'bodge' work.

So we packed our gear and went. All our equipment was 240 volts / 50 Hz. The USA is 110 volts / 60 Hz. No small problem but somehow we found a conversion solution. When we arrived at the Convention Centre in New Orleans we found that we were not allowed to carry in our rag-tag kit of equipment because it was a unionized facility and the union did all the heavy lifting. Fortunately we managed to negotiate a deal.

Our stand at the exhibition consisted of a table covered in green cloth with the TV on top. Under the table concealed by the cloth was our intrepid engineer lying on his back ready to 'bodge' the connection at the right moment during the presentation. It was all a bit cheeky.

But it worked. The visitors were interested, intrigued and excited. They even loved the picture quality on the TV! We could have sold many systems. The big issue was that they loved the idea of shopping from home. It was a winner. We left no forwarding address and hot-footed back to the UK.

We designed a multi- port controller for the TV and complete interface software to run the system. And we set a public launch date of April 1980 for our new system. We were going to make a business of online shopping!

Building a Market
Except for a handful of people no-one in the world knew what we were doing and those that did probably thought we were mad. But we had a plan.

Most inventions never make money for the inventors. For online shopping we had to build interest, awareness, need and a financially viable product for our clients and ourselves. We had to make a market, and we had to do it without spending any real money.

We had some huge advantages. The product development cost was very low. We had a multi-user real-time transaction processing mini-computer that was fast, versatile and relatively inexpensive. We had a client base of large corporations and public and government institutions. The rest was not difficult.

We called the new technology 'Videotex' to differentiate it from Prestel and we produced an add-on feature to our office computer called 'Viewdata Plus' because there was much free publicity around the word 'Viewdata'.

Because we bolted the new technology on to an existing if somewhat enhanced system we knew we had stability, reliability and dependability. The system was bomb-proof.

The marketing plan was simple. Sell the idea to the big corporations that they could connect their agents, distributors and customers to their corporate information systems for direct shopping and sales. No third parties would be involved. We coined the name 'private system'. We divided the big corporations into leaders and followers and we focused on the leaders. We sold the 'competitive advantage' to be gained from the new technique and we made compelling financial arguments. We knew how to do cost/ benefit analysis – that was how we sold all our systems. This idea became known as Business to Business [B2B] online shopping.

The plan worked like a dream. We were soon knee-deep in projects. There were world firsts in the travel industry, the car industry with a 'locate a car' system for one of the world's largest manufacturers, car financing systems with automatic checks with credit rating agencies, supermarket shopping, services for the elderly and even a taxi booking service. To avoid spending money on advertising and promotion we used free editorial and conference papers extensively. It wasn't difficult. There was huge interest and excitement.

Developing the Market
B2B was commercially viable from the beginning for enterprises that could afford to set up their own networks or could use the videotex terminals already installed in customers' offices by third parties for other purposes. The terminals had programmable auto-diallers and could hook –up to any computer. The human interface was standard so learning to use another system was easy. Some of the early systems ran virtually unchanged into the 21st Century. The first B2B became operational in 1981. Business to Consumer online shopping [B2C] as in supermarket shopping did not become commercially viable until the 1990s when a critical mass of installed home computers was reached, improved telecommunications with internet/www opened up continents and service providers appeared in volume. From 2000 onwards, improved availability of bandwidth [broadband] at affordable prices ,improved encryption for payment processing, improved search engines, exponential growth in service providers and near saturation in installed home computers in first world countries made B2C ubiquitous From the first B2C supermarket online shopping in 1984 it was best part of 20 years before B2C became a heavyweight force in retailing.

The original pioneering work was not lost .It merely migrated to the internet in the 1990s. Reading those original papers again today, the social impact has been pretty well as predicted even if the videotex technology proved short-lived. And today's internet shopping is beyond our wildest dreams.

Michael Aldrich
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This article is part of the Michael Aldrich Archive that has been donated to the Aldrich Library at the University of Brighton in the section titled 'Pioneers of Online Shopping'