



On e-haves and other things

Andrew Morris

THE INTERNET MAY BE the sexiest subject on the planet, but when you stop and think, in one way it is merely another tool for accessing information — call it an electronic Swiss army knife if you want, but a tool nonetheless. This may sound like blasphemy considering the number of people accessing the Internet every day; the number of companies offering services around the Internet; the attendant news coverage of occasional criminal or immoral activity on the Internet and the sheer volume of information circling the globe.

It is a power tool for the "gold-collar worker", the term used to describe individuals whose main task is the collection, analysis, presentation and use of information.

Information is the capital of the post-industrial age and potentially the division of the population into e-haves and e-havenots. As the agrarian revolution established land as wealth, and the industrial revolution established money as wealth, so the information revolution is establishing access to information.

Another point to consider in this information age is that the revolution is fast compared to 500 years for the agrarian and 100 years for the industrial. For the first time in human history we are seeing a radical shift within a single generation, and we have no reference points or past experiences upon which to understand the fundamental changes taking place.

What we can say is that information is the foundation for knowledge and that as access to the information storehouses of the world become available to the masses, the potential for increasing the sum of knowledge is vast. A weekend newspaper contains as much information as an agrarian worker would have been exposed to during his whole lifetime, and this raises another important issue. With information being so readily available in a medium which takes little expertise to present, how does the reader attach importance, and relevance to it as a source?

The answer is in adopting the tried and tested methods of good investigation and objective reporting, and that is why the Internet is merely a tool. It cannot and should not replace knowledge, which is the ability to apply information. We should still take time to delve deep into the storehouses and establish credentials — there is no substitute for legwork.

But what of the information providers? The Internet has been termed the ultimate vanity press, with no rules, no ownership and minimal infrastructure costs to become a presence. While this is a current problem, there is more and more concern being shown for the accuracy and quality of information presented. First, authoritative links to other information sources can be an integral part of the e-document, to support the content. Second, as the number of visitors to a site becomes a differentiating factor, and therefore "hit parades" determine success, it is in the interests of the information providers to adopt a professional approach to content rather than presentation. Third, tools will emerge to give accurate statistics on a number of information attributes, and these could easily become validators to provide the reader with confidence that sources are accurate.

Information and the delivery systems of computer networks are fast becoming the major asset of businesses and organisations. It is estimated that by the turn of the century less than 10 per cent of the world's population will be engaged in the production of food, and little more than 25 per cent in the manufacture of consumer goods. The remainder will be engaged in the collection, analysis and dissemination of information and related products. New industries are emerging all the time to deliver information to an eager consumer market.

Making decisions is a complex activity, but in essence it is the identification of a need, the location of supporting information, consideration of alternatives and the implementation of an action plan. Whether it is a decision of what to do this evening or a long term strategy for a business, the process remains the same. Information sources therefore play an important role for the decision maker — without information a decision may be based on an entirely incorrect premise. With too much information or information presented in a random and unstructured fashion, inertia may cause decisions to be fundamentally flawed if not avoided altogether. We could find ourselves drowning in information, while being starved of knowledge and this more than anything else suggests that new and more sophisticated tools will emerge to manage the flood.

Traditional methods of delivering information are becoming obsolete, particularly where immediacy is the most important consideration. Just look at where we have come from — news of Lincoln's assassination took five days to reach London, news of Kennedy's took five minutes and we all watched the Gulf War live on our televisions. *The Times* of London carried a headline that suggested that ALL passengers on the Titanic were saved when the ship hit the iceberg. General "Stormin' Norman" Swartzkopf said during the Gulf War that future conflicts would be won or lost in the media, and what he is really saying is that information will be the key to future survival.

The Internet is fast becoming a global public utility spread across millions of computers and delivering information access at little cost. We are in effect "plugging in" our information appliances to this utility to retrieve the best information possible to satisfy our needs. While it is not yet a true utility the building blocks are there and it will only be a matter of time before we "get wired" as effortlessly as we switch on a radio or kettle.

These building blocks are global databases, communications technologies and desktop computer applications. It is worth considering these blocks in turn to understand how the Internet is reshaping our understanding of the value of information.

■ GLOBAL DATABASES

Electronic information bases form the core of most businesses, but it is only in the past few years that these storehouses have been recognised as their

wealth. By using computers to analyse large volumes of raw data, consumer habits may emerge which would have been previously impossible to determine. Why in a large US chain of stores do they place 6-packs of beer next to disposable nappies? Reason — most purchases of disposables during evening trading result in the sale of beer — husbands on their way home stop off and the beer is an impulse purchase. Why do banks target the under 14 market for new accounts? Reason — the earlier you open an account the less likely you are to change banks.

Volumes of unstructured data are stored electronically and these are growing all the time. Imagine the volume of transactions going through a supermarket check-out, each and every one giving insights into your life style and spending patterns. What we are moving towards is an era of tools to mine these rich seams of information. These databases exist and without electronic storage it would be impossible to store all this information let alone make sense of it.

■ COMMUNICATIONS TECHNOLOGY

Global communication is something we take for granted — geo-positional satellites spanning the globe to deliver signals between locations — undersea optical fibre cables linking the continental land masses — houses and buildings connected by simple copper wire to exchanges acting as switches into the global connection. In the same way that the telegraph boomed because of railways, since they offered trans-continental pathways, so the existing telephone system is the backbone of the Internet. The major problem is that this old system was never designed to cater for the volumes of traffic. As we begin to move graphics, photographs and full-motion video along phone lines the bottleneck becomes the technology of the telephone wires. In the USA it is estimated that laying optic fibre in place of copper wire will take \$29 per capita, but would take

years to complete. No matter how much capacity we get there will always be more traffic.

The information superhighway is being built while we travel along and for the foreseeable future the response time will be poor and the true potential unrealised. But, what we will witness is a cycle of incremental improvement and deterioration as capacity increases, applications and users need more capacity and so on.

■ DESKTOP COMPUTER APPLICATIONS

Desktop computers began as a hobbyist's dream and with limited disk storage, memory and display capabilities and were not really capable of much meaningful work. It was first with the Apple and later the IBM PC that a base was established, but no-one really knew how successful the industry was to become. IBM estimated that the total world demand for PCs would be 250 000 and yet its own production exceeded this figure in its second year. In fact, the IBM was built from standard parts because they did not foresee the business capability or its explosion in use.

From the first systems grew the software industry, originally offering limited applications for accounting and document processing. It was all character-based, slow and limited in functionality. Within fifteen years we have reached the point where applications share information which comprises text, video and sound. Add to this the capability to connect across telephone lines and you have a gateway to a massive computer system — almost unlimited.

But we still have a long way to go before computers are as easy to use as other domestic appliances — the QWERTY keyboard, the technical demands and the sheer bulk of the machines will all come under scrutiny as we attempt to reach the point of pervasive computing.

■ FREEDOM OF ACCESS TO INFORMATION

If individual privacy isn't already the first road kill on the information superhighway then it soon will be, is a sentiment voiced by many civil liberties groups, and privacy is currently a hotly debated issue. We will have to balance the desire to access others' information against privacy of our own. It is a trade-off — privacy has to be given up in exchange for economic activity. As we move into a cashless, paperless and digital society this becomes truer, and we will have to be vigilant to ensure that we do not lose our identity.

The other side of the coin is that information should be available and at no cost. Libraries used to be the exclusive domain of monasteries, with books chained to shelves. As publishing and literacy brought the written word to the populace the church began to lose control.

We are soon to see the same with governments and business losing economic control as information filters into the public domain.

It may be beneficial, it may not — but without raising the debate and keeping a watchful eye we may not be able to avoid the extremes — total loss of privacy and the complete breakdown of society. *Noblesse oblige* — position has its responsibilities, is now an individual issue. If we have access to information we have responsibilities to the originators — acknowledgment of sources, accurate reportage and payment where payment is due.

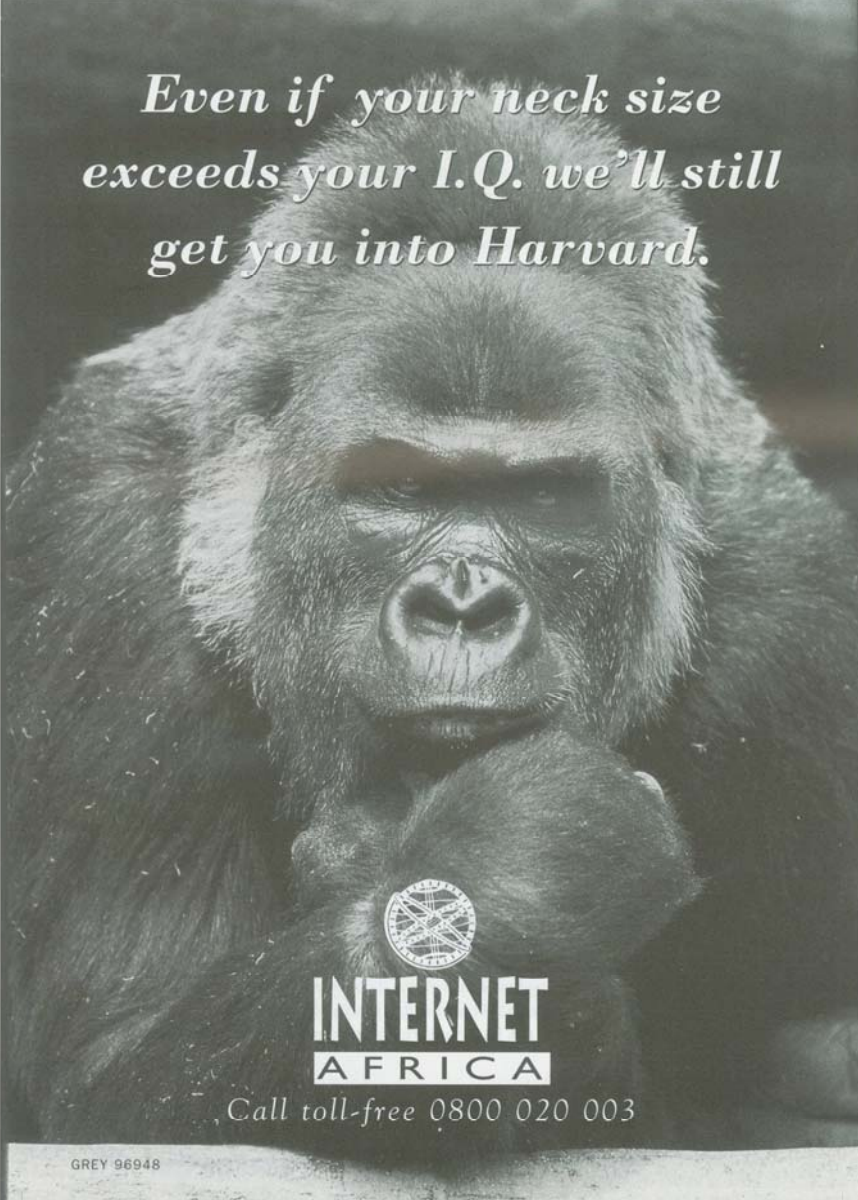
■ LITTLE OR NO COST

If the promise of free and unfettered access to information is to be provided to everyone equally, there must be a reduction in the associated costs. This will require alliances between governments and the telecommunications authorities around the world to adopt a strategy of establishing an infrastructure for the information utility. Right now, the technology, connection and required expertise comes at a price, but since the birth of the personal computer there has been a doubling in speed and functionality every twelve months. Today a desktop computer one thousand times as powerful as early mainframes costs only a fraction of the price. A laser printer in the early 80s would cost R1 million, and now you can pick one up for a couple of thousand Rands that is faster, has better quality output and is more reliable.

Despite the occasional negative press surrounding the Internet, there is a huge community of people who use it daily and this community is doubling every year. In the same way that a few bad drivers don't make you stop using your car, using the Internet doesn't mean you will be the victim of hate mail, information theft or offensive material.

Like it or not the Internet is not going away. Maybe the fall-out from the initial explosion is settling and we are entering a period of consolidation, but to discount it is a dangerous decision to make. To embrace the technology is the only option, so as they say — it's easier to ride a horse in the direction it's going, that way you get to steer a little.

Andrew Morris is the computer correspondent for The Argus and a regular contributor to other computer-related publications. He is now engaged in creating the on-line service of the Independent Newspapers, and continues his research into information ethics. Earlier this year he received a merit award in the IT Journalist of the Year competition.



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