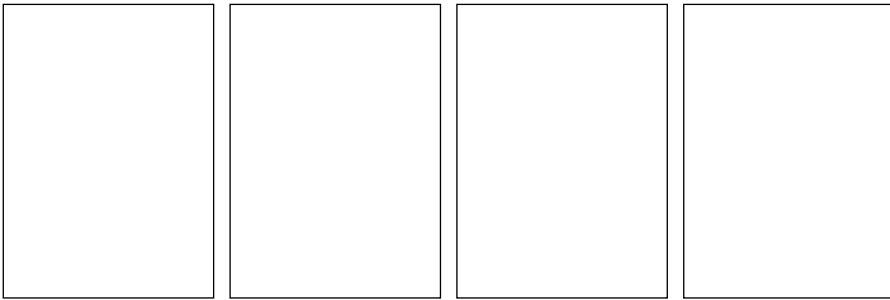


Brave new hi-tech world



Contents



Brave new hi-tech world	2
Bernard Salt	2
Work and technology	2
Households and technology	4
What does it mean for business?	5
About the Author	6
Appendix 1: Job loss and growth between 1996 and 2001	7

Brave new hi-tech world

Bernard Salt

KPMG Partner and best-selling author Bernard Salt looks at future trends in high technology and its impact on the work front and in the home. How will new technology shape the way we work and how we arrange our homes in this 'brave new world'?

Work and technology

In late 19th century, newspapers in rural Australia would chronicle the comings and goings of the local high society. Social notes covered the soirees of squatters, solicitors and doctors. But they would also track the comings and goings of the local railway stationmaster and his wife. In remote towns the new railway technology was the most efficient link with the outside world. Those who controlled, managed and interfaced with this technology were therefore important.

Stationmasters are no longer the celebrities they once were. Today we revere modern keepers of the new technology until they, like their stationmaster ancestors, are wrong-footed by even newer developments. Consider how technological change has created some jobs and has eliminated others.

The number of typists and word processing operators in Australia contracted by 7,459 over five years to reach a new and lower base of 14,214 at the time of the 2001 census (see Appendix 1). At this rate of decline both of these "work species" will be eliminated from their office habitat by the end of the current decade. But what caused the sudden demise of the typist and the word processing operator?

Typists blossomed with the expansion of office work soon after the second world war. Such was their skill and importance that they even assumed the creative title of typiste (as in artiste). The development of the electric golf-ball typewriter in the 1970s further enhanced the typist's stature because they were the controllers of the new technology. In the following decade word processing developed; typists quickly re-skilled and retained their pivotal role within the office. The term word processing operator, or WPO, entered the office lexicon in about 1985.

But the 1990s brought typists and WPOs a new predator: the personal computer (PC). Managers operate within a world where the currency is the written, or typed, word. Prior to the advent of the PC managers did not type. Managers dictated; typists and WPOs typed. Typists and WPOs therefore proliferated wherever managers gathered—both enjoyed a mutually agreeable and symbiotic relationship.

The PC arrived in the office in the early 1990s. Initially only the elite but by about 1997 most Australian office workers were using PCs to send and to receive informal emails. This was a more immediate method of communication rather than the formal typed memoranda. Suddenly, and seemingly overnight, the WPO's raison d'être was eliminated: office workers were doing it for themselves.

Soon after WPOs and typists were all but wiped out. Some managed to morph into office manager roles; a few became secretaries. Others, too old and too frail to cope with re-skilling, simply wandered off into the wild prairies of the open-plan office and were never heard of again. They just ... disappeared.

Like dinosaurs, the typist and the word processing operator, saw and gripped onto their chance at life in an era when climatic and predator conditions allowed. Typists roamed Australian office buildings for about 60 years following WWII. WPOs, on the other hand, enjoyed a brilliant but briefer lifespan of 20 years from the mid 80s. Technology begeth the WPO, and technology taketh their life away.

One of the fastest growing jobs in Australia is the Inquiry Clerk (aka call centre operator), up 24,942 over five years to reach a new and higher base of 60,331 at June 2001. Advances in telephony and the out-sourcing of customer service underpinned the demand for call centre jobs in the late 1990s. But just as the WPO's life span lasted barely 20 years, the probability is that call centre operators will ascend and reign for about 12 years from 1995. The call centre operator has several predators: the rising demand for data centres (which rely on email responses to customers), and the transfer of the call centre function to cheaper locations beyond Australia such as India.

The lifespan of jobs crystallising around new technology is contracting. Workers can no longer assume that their skills are sufficient for a lifetime's career. New technology, work arrangements and the impact of the globalisation of business allowing, for example, the call centre function to migrate to India can now reach in and touch the day to day life of even the humblest worker.

The modern era is marked by the increasing temporality of technology, as well as of work arrangements and even of inter-personal relationships. The winners in this brave new world are the nimble: those who re-skill, those who embrace the new technology, and those who release the past. Those who fail these tests are destined to wander off into an underclass of the technologically illiterate.

One of the challenges for businesses introducing the new technologies to the mass market is the need to educate all corners of the market, rather than merely engage the shallow pool of early adopters. Truly successful "new technologies" reach a tipping point within the mass market where even the technologically challenged embrace the new order. The issue for many workers, however, is that once this tipping point is reached the momentum for further technological change accelerates. In this sense 'change begets change' which forces workers to continually re-skill.

Households and technology

The Australian Bureau of Statistics has been surveying the take up by Australian households of information technology since 1998. Survey results published in September 2003 show that the proportion of Australian households with a home computer increased from 57 per cent in 2001 to 60 per cent in 2002. (ABS Catalogue No 8146.0). This rate of growth suggests that by 2005 this proportion is likely to exceed two-thirds of all Australian households.

Australian households will reach home-computer saturation towards the end of this decade (around 80-90 per cent penetration) if the current take-up rate is projected forward. However, even further growth in the home computer market could then be achieved by increasing the number of home computers per household: the average in 2002 was 1.4 units in those households with a home computer.

This outlook for home-computer saturation prompts some important questions for Australian business and society: What will Australian households, and society, look like when computer saturation point is reached?

The layout of the house and the priorities of the household must change as a consequence. The study multiplies because each household member requires their own dedicated workspace and log-in capabilities. The home compartmentalises as each household member demands private work space. This alone is a major 'paradigm shift' from the previous 30 years when household members were encouraged to congregate in large and open spaces (often pivoted around the kitchen).

Children demand their own internet alcove in a place that is separate to a parent's study. The blending of families, brought about by the greater social acceptance of separation and divorce, accentuates the child's need to have private space to communicate as they may wish with non-resident parents.

Home fax machines give way to scanners for email attachments that replace faxed documents. Home photography shifts to digital cameras with processing taking place either wholly or partially in the family study, and which is enabled with both editing and printing functions. Wireless technology provides the household with freeform connectivity to all household laptops. Pay TV delivers broadband to the household for entertainment and faster internet access. Digital TV indulges the household's penchant for information – any information, just more information and for participation.

All teenage children have mobiles phones and use SMS text daily. Parents are less inclined to this technology given their poorer thumb-eye co-ordination. Their reluctance to learn the newest method of communication is also partially a laziness in not learning how to use anticipatory text. It is nevertheless compounded by poor eyesight. Teenage, and younger, children have access to MSN or internet

chat which becomes a leading form of social interaction for children, teenagers and young adults. The household spending budget reconfigures to accommodate the cost of technology purchase, operation and maintenance.

But of course the new technologies and the new household arrangements are adopted most eagerly and fastest by those who are ablest: the comfortable middle class in urban Australia. And it is from this beach-head that the bits and pieces of the complete 'home technology' picture spills towards provincial and rural Australia.

Others, the aged the poor and the technologically dyslexic, are later adopters. Or they fail entirely to adapt to any aspect of this bold new order. They form the basis to a marginalised underclass demanding education and welfare programs to improve their participation within a mainstream society that is rapidly shifting in an entirely new direction.

What does it mean for business?

Australia's brave new world of high technology in the home and in the workplace offers challenges and opportunities for business and government. The pace and scale of technological change, and its capacity to reach into the minutiae of our daily lives, suggests that those who are best able to read and ride this change will be the winners.

But what are the opportunities and challenges for businesses operating at the centre and even on the edges of high technology?

- Telecommunications—mainstream baby boomers have yet to buy into SMS texting. The cost effectiveness of this method of communication means that boomers will be inclined to this market over the next 10 years as they wind back from full time work. However texting must be made easier for the less digitally dextrous with larger screens to compensate for failing eyesight, and larger buttons to accommodate arthritic fingers.
- Personal computers—still further growth in this market with household saturation unlikely to be reached until end of this decade. There is a requirement for light, portable, wireless, CD (not floppy) compatible PCs that can populate households and the office. There is scope for market penetration of the 13 per cent of Australian households that regularly profess no interest in computers, or indeed in any of the new forms of high technology.
- Household appliances—wireless and cordless will be demanded in all things that are currently tied down. Development of the complete home office and editing suite for digital still and movie cameras will support selected new home-office appliances.
- Office—jobs rise, plateau and decline on the back of new technology within a time-span of 10 years. Workers must plan for re-skilling which means training and then retraining. Employers must plan for even newer technology and develop strategies to manage those employees unable or unwilling to re-skill.

- Entertainment—new channels of entertainment emerge which splits and confuses the market. Free to air TV, Pay TV as well as DVDs, internet and computer games now compete for both leisure time and for the entertainment and technology budget. The adolescence of teenage years (13-19) during the last half of the 20th century is now pushing into the mid 20s because young people spend longer at university and they stay single longer by delaying marriage. Today's teenagers and young adults are 'adolescents' for longer; they require increasingly sophisticated entertainment for more of their 20s than did previous generations. The new technologies are expanding to meet this rising and sophisticated market.
- Government—how do you manage and provide support for those who cannot or will not re-skill in the brave new world of high technology? Will an underclass emerge of the unemployed and the unemployable? All levels of government will be pressured to resolve how to smooth access to the new hi-tech jobs for the various geographic, social and demographic groups from across the Australian continent.



About the Author

Bernard Salt is Partner KPMG and is author of the best-selling book *The Big Shift: Welcome to the Third Australian Culture*. He is a columnist for *The Australian*, as well as for *Property Australia* and the *MELBOURNE* magazine. Bernard was a core member of the Business Council of Australia's "Australia 2025" scenario planning project. Bernard is a frequent commentator in the Australian media on matters relating to the business implications of social and cultural trends and is one of Australia's most in-demand corporate speakers.

Appendix 1

Job loss and growth between 1996 and 2001

Rank	Occupation	No	Rank	Occupation	No
Top ten declining occupations			Top ten growing occupations		
1	Secretary	48,541	1	Sales Assistant--household goods	66,896
2	Bank worker	24,708	2	Sales Assistant--food & drink	50,480
3	Commercial Cleaner	16,907	3	Sales & Marketing Manager	31,155
4	General Clerk	16,317	4	Office Manager	27,255
5	General Farm Hand	10,150	5	Inquiry Clerk	24,942
6	Electronic Engineering Associate	7,514	6	Accounts Clerk	24,736
7	Typist & Word Processing Operator	7,459	7	General Manager	24,613
8	Financial Institution Branch Manager	7,285	8	Personal Assistant	20,594
9	Fitter	6,864	9	Sales Assistant--clothing	19,600
10	Stock Clerk	6,438	10	Project & Program Administrator	19,441

Source: ABS Census 2001 Unpublished data

Technology creates and eliminates jobs

The five-yearly census conducted by the Australian Bureau of Statistics collects information on the occupations of nine million workers. These jobs are classified into 1,300 occupational categories. The table above identifies the top ten occupations that have increased most and that have decreased most over the five years to June 2001.

Several of the jobs on the back foot (declining) have been marginalised by technological change. Several of the growing jobs have been created by other changes in technology. A stock clerk, for example, monitors goods flowing into and out of warehouses. New warehouse management technology (based on barcodes) has diminished the demand for stock clerks.

It is clear that job growth is forming around office and management functions rather than around manufacturing and industrial jobs. The growing jobs involve managing, promoting, selling and accounting. Changes in the organisation of the office has changed the relationship between manager and secretary. Less dictation and typing; more liaison. This shift has led to a legitimate job redefinition: out with the term 'secretary' in with the term 'Personal Assistant'.

For further information about the services offered by KPMG
please contact us on:

Adelaide

+ 61 8 8236 3111

Brisbane

+ 61 7 3233 3111

Canberra

+ 61 2 6249 1877

Melbourne

+ 61 3 9288 5555

Perth

+ 61 8 9263 7171

Sydney

+ 61 2 9335 7000

National toll free number

1800 500 376

Alternatively, visit our website at

www.kpmg.com.au



The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavour to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act upon such information without appropriate professional advice after a thorough examination of the particular situation.



www.kpmg.com.au

© 2004 KPMG, an Australian partnership, is part of the KPMG International network. KPMG International is a Swiss cooperative.
All rights reserved. Printed in Australia. July 2004. NSW8226ICE.