Impact of technological change in the Australian financial sector

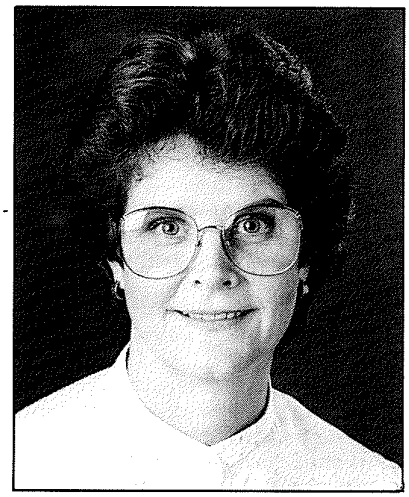
By Germaine Kennedy

AUSTRALIA'S financial sector is in a state of rapid change; and technological change is a potent force fast revolutionising the working world for both men and women. Technology has transmogrified the Australian financial institution socially, culturally, politically and economically.

With the de-regulation of the banking system and the introduction of computerisation, the speed and accuracy with which business must now be conducted in order to gain competitive advantage makes more critical than ever before the need to have the logistics of information handling properly sorted out.

The financial organisation's performance invariably depends on this, and to remain competitive institutions look closely at any developments that may occur within the entire financial sector. In fact, Australia's financial sector has been one of the most progressive in adopting new and modern technology.

Industry competition can be likened to a war between nations, with war-like "games" played and new products, techniques, strategies and the like playing the role of "weapons", with technical innovation being analogous to the processes and problems of technical innovations in a nation's military functions. Banks, building societies and credit unions compete for funds in a like manner. Technological innovation thus threatens the hierarchy of power and prestige upon which the financial institutional system of power is built, for political structure is tied to an



established technology and a radical technological shift disrupts the organisational structure.

The latest technological introduction of a universal electronic banking card has set up a three-way electronic banking contest between Westpac, the Commonwealth Bank and those in the latest Bankcard deal, with non-bank financial institutions on the periphery of using the banks' "Gateway" or "Shared Common Access" systems. Not to be outmanoeuvred, building societies have their own national hook-up system.

In the 1960s technological change in computerisation provided a tool for gathering data and processing information through a single data bank, thus allowing senior managers to retain centralised control, despite organisational growth and rapid branch development. Consequently, the first impact of the computer was to support growth in organisational size and complexity, and to consolidate centralised control rather than foster delegation and decentralised decision making.

Those institutions which failed to keep abreast of technological developments were gradually absorbed through amalgamations, mergers and transfer of engagements into other larger organisations. Such rationalisation projects were successful in achieving savings through economies of scale in advertising, stationery and printing, and in computerisation, the latter leading to a rapid diversification and integration of services.

To a far greater extent than is generally realised, the Australian financial sector provides objectives, formal and informal rules, values, styles of personal behaviour and a language of its own as it shapes the identities of its members, drawing on resources of emotional energy in the same manner as do other non-corporate societies such as family and church. Technological change within the financial sector was the catalyst which altered the cultural and social composition of individual organisations.

First, changes occurred in the distribution of responsibility — the relatively small number of technicians needed to programme and debug the equipment and to carry out preventive maintenance were often able to hold an inordinate level of power because of their intimate knowledge

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of the technology. *Secondly,* there is a marked alteration in the divisions in time spent on tasks, and this change in job content has resulted in a consequent contraction of career paths and limited job opportunities. *Thirdly,* there has been a change in relationships within the organisation, from an interaction between people to an interaction of people with machines.

In one investigation, Friedlander and Brown found that what job changes were made, and how they were carried out, were dependent in important ways on which technology was involved. They point out that in a continuous process technology, such as the advanced information technology introduced by financial institutions — banks, building societies and credit unions — it may be nearly impossible to design jobs with high task identity.

Thus, technological changes have profoundly affected the nature of clerical, professional and managerial work, created a new "elite", and altered the distribution of the sexes within the office environment.

While there has grown a small group of "elite" personnel, such as the programmer, analyst and trainer, these areas remain heavily male-dominated. At the same time, there has been a reduction in the need for a flexible, broadly-trained clerical workforce as lowgrade clerical, key-board, word-processing and teller or "manual" duties replace tasks which took innate ability and experience to master.

The computer's capacity to process vast amounts of information has increased the demand for data, on the assumption that more data results in more rational, better-informed decisions, and the introduction of the computer has not reduced the size of the clerical staff.

However, while technological change has meant that new skilled jobs, such as programming, are created as well as routine jobs such as transporting deck tapes and key-punching, clerks are rarely upgraded to fill these new jobs. Instead, professional and technical workers, recruited direct from outside an organisation, form a new, higher-status group within the office hierarchy. The mass of low-level clerical jobs has been filled by an increasing female component, with the managerial or "task design" elements remaining the male preserve in the distribution of responsibilities.

In its social impact, technological change in the financial sector has required a willingness to adapt to change by all employees. Managers, professional and clerical personnel are all required to interact directly with computer terminals, often an integral part of their duties or responsibilities. Because the system is on-line, the relationship between the user and the system is more immediate, and therefore has the potential to affect more employees than ever before.

At the clerical level, eye and finger co-ordination, speed and dexterity become important job requirements as mental skill and knowledge are made technologically obsolete. This has resulted in an increase in operator fatigue and tension exacerbated by change in interdepartmental patterns of accountability for errors and the creation of more tedious routine requirements.

Certainly, computerisation has allowed the concentration of information under close scrutiny in the hands of top management. However, because of its immediacy, communication patterns at higher executive levels have been altered to allow vertical and horizontal communications, and the decision-making processes to become fraught with stress. For top management, the cumulative effects of all these changes in the institution may be overwhelming.

At middle-management level, there has also been an unforeseen social impact from technological change with the financial sector. As the system increases specialisation and separates the speciality from interdependent activities, many middle managers find themselves becoming isolated and unable to obtain performance feedback. Thus, they "lose touch" with other areas and become physically and informationally isolated from other steps in the process. Often they cannot respond to customers and make autonomous decisions, or must provide them with meaningless promises about the situation.

This has resulted in tension and mutual fault finding between customer service and data processing personnel. Socially and culturally, then, technological change has been a mixed blessing. The technology was the easy bit, for with planning and co-ordination it worked.

Some results of technological change in the past decade in the financial sector have been very positive. Because of the generally higher educational levels being achieved by promising younger staff and their growing familiarity with the technology, their view of their market ability is increasing and thus they tend to change jobs more frequently as economic conditions permit.

This has increased contact with technologies in other organisations, and, although research and technological innovation is, in the main, exogenous to a particular system, inter-organisational exchanges of ideas have on the whole been most positive.

Australia may not have the largest banks, building societies or credit unions in the world, but it does have some of the most progressive. It is imperative, in terms of national cost-benefit analysis, that, rather than allow the technology to remain unexploited, every organisation to which it is relevant should be brought together to act co-operatively so as to realise its potential benefits.

This has become a feature of the Australian financial sector, with agreement between such banks as

Westpac Banking Corp and The Commonwealth Banking Corp to share each other's electronic funds transfer (EFT), point-of-sale (POS) and automatic teller (ATM) network; credit union use of the National Australia Bank's ATM network; and the national hook-up of the building societies' switch.

The impetus for cost-saving ideas can come from technologies operating elsewhere in the industry, and an operating process in which equipment is purchased from a vendor may be modified, adapted and developed to suit particular internal requirements until the "bugs" are worked out, but this co-operation is a positive aspect of technological change in the financial sector, and one in which continued acceleration in the future appears inevitable.

Naturally, many innovations are designed to overcome specific operating problems: an equipment breakdown, a change in the process and the like, and these components have to be considered as economic costs in estimating the benefits of technological change. Capital costs of installation, general maintenance cost, staff training, operating wages bills, output per unit of operating time, materials consumption and wastage, and repair costs are taken into account by management before the introduction of the technology.

However, there are many "hidden" costs which are overlooked. These include those occasioned through loss of productivity while training staff to use new equipment, staff attending workshops, industry association meetings, inter-firm visits, schools of administration and the like. It would be anticipated that such involvement would originate cost-saving ideas which would balance involvement costs.

Other "hidden" costs would include delay costs occasioned by lack of skilled technicians to effect repairs to terminals or printers, and cost of adjustment while the public accept new services such as industry plastic cards and automatic teller machines.

Politically, technological change has also been beneficial to financial institutions in Australia. Both State and Federal legislation as envisaged in the Martin and Campbell Reports has given organisations the ability to diversify their services further, and this has been a tremendous stimulus for the financial sector to introduce the latest technology. For instance, electronic funds transfer (EFT) and point-of-sale (POS) dispense with the paperwork traditionally associated with transfering money from bank to bank and account to account, with all transactions carried out electronically.

Institutions benefit with a reduction in the amount of paper which they would otherwise have to produce; customers benefit from delay-free transactions for direct crediting of salaries and dividends or for payment of amounts owing for accounts, insurance premiums, subscriptions and the like.

Of course, efficiency in handling information processing does not always translate directly to profits, even if it does make operational environment changes and alterations to the social and cultural aspect of working life. Nevertheless, there has been little agitation within the financial sector in industrial relations as a result of technological changes. One report which examined the experience of selected Australian industries over the past 20 years found that the financial sector had increased its employment, despite rapid introduction of technology.

There is little trade union literature so far available or concerned with electronic data processing in Australia, possibly because, as the Federated Clerks Union reported to an ACTU seminar, "Our experience has been that, with some notable exceptions, nobody has been retrenched because of the introduction of computers."

Also, while regulation of pay and physical working conditions of organised labour have concerned Australian trade unions, the issue of employment security has attracted little interest until recently and unions generally have not sought to infringe upon management's prerogative to introduce new technology or retrench labour.

Nevertheless, marked changes in both the labour market and the cost competitiveness of computer technology in recent years have forced trade unions to adopt a more aggressive stance on the issue of redundancy protection.

Australia has always been progressive in its approach to technological changes which are widely perceived as a means of generating a higher standard of living by maximising the benefit to be gained from Australia's resources and by minimising natural obstacles. This has meant acceptance by the public of electronic services to a greater degree than overseas. Financial institutions will continue to forge the path ahead in technological changes in the face of rising costs of maintaining staff, shorter working hours, greater job mobility and heightened expectations of employees of the organisation with which they work.

A combination of cost reduction and competitive pressures are forcing Australia's financial institutions to discontinue services that do not contribute directly to achievement of organisational goals, with managerial expectation of staff increasing. In effect, it is people who are really the key to the success or failure of a computing project or of technological change; acceptance by both society, employees and the general public.

It is of the utmost importance that Australia's financial institutions continue to consider the people side of projects in the applications system development environment of technological change. ■

GERMAINE KENNEDY is assistant to the managing director of Wide Bay Capricorn Building Society, Queensland, Australia.