



## Knowledge Work



***Formway is an innovative New Zealand company that designs and manufactures office furniture. With a high profile in Australasia and a network of strategic partnerships internationally, the company assists clients to create great workplaces.***

***In mid 2002 the company commissioned Ian Ferguson & Associates to conduct Project Future Form - a study of the workplace of the future.***

***The aim was To draft a strategic framework that guides product and service development over the next 7 years.***

***This is one of five papers produced to support the broader project. It is based on voluntary responses to an on-line survey and public activities conducted between September and December 2002.***

***Persons who registered to contribute to the study are listed in Attachment 2 to the paper The Workplace of the Future.***

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## **Knowledge Work**

*The knowledge workers are a diverse group united by their use of state-of-the-art information technology to identify, process and solve problems. They are the creators, manipulators, and purveyors of the stream of information that makes up the postindustrial, postservice global economy.*

- Jeremy Rifkin

*The comparative advantage that now counts is the application of knowledge.*

- Peter Drucker

## **Background**

Advances in technology have made knowledge the key factor in the attainment of competitive advantage. Information is readily available to those who have access to appropriate technology. Individuals who apply technology to manipulate that information or to produce new knowledge are engaged in knowledge work and are referred to as knowledge workers.

Any consideration of the workplace of the future needs to take account of the future of knowledge work. This paper examines that topic, addressing sequentially drivers, forces and trends, significant issues, and finally, the implications for the workplace of the future.

## **Drivers, Trends and Forces**

The drivers, trends or forces in the macro-environment that are shaping or will shape knowledge work over the next 10 years that are considered below are:

- Continued globalisation
- Advances in technology
- Changing workforce demographics
- Knowledge-literate generation
- Trend to decentralisation
- Focus on security
- Information management and meta-knowledge

### **Continued globalisation**

Developments in telecommunications, information technology and a more computer-savvy workforce will increase connectivity among those with access, reinforcing existing networks and widening the gap between the information rich and the information poor. Labour force mobility will be less of a feature than in the recent past, which should help to slow the global 'brain drain' of talent from poor to rich countries.

### **Advances in technology**

Technological advances such as tools to support teleconferencing, e-meetings and online translation

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will further break down barriers to globalisation. Online, just-in-time training will provide greater opportunities for resource poor workers. Technology will also facilitate all aspects of e-business allowing compressed design, production and delivery cycles.

### **Changing workforce demographics**

In 2012, the demographic profile of the Western workforce will be different, featuring older workers, more females, more single parents and a greater proportion of persons from different ethnic backgrounds. Family issues and lifestyle balance will be more important. Knowledge workers will demand more flexible terms of engagement, seeking variable working hours, opportunities to work from home, and more leisure time. Employers will be urged to provide family-friendly workplaces and conditions of employment to attract and to retain talent.

### **Knowledge-literate generation**

Raised on a diet of computer games and virtual sports, the younger generation will be more attuned to technology. For older knowledge workers, computer literacy will be as important as literacy itself. Online relationship building will be routine. Virtual teams form and dissolve as required.

### **Trend to decentralisation**

Many knowledge workers will exercise the option to work from home or corporate hotels. No longer dependent upon full time collocation, project team members will probably meet at the start, at critical milestones and end of a project. This will require knowledge workers to develop appropriate virtual communication and team skill protocols.

### **Focus on security issues**

For knowledge workers, information security will be a significant concern. Information relayed via telecommunications may require encryption. This plus anti-virus measures and built-in redundancy and automatic backup will need to be incorporated in the normal suite of domestic software applications. The threat from global terrorism will act as a further disincentive to travel.

### **Information management and meta-knowledge**

Information will be abundant, albeit much of it at a price. Therefore, sifting useful information will be a challenge for the knowledge worker of 2012. Employing organisations will require on-line access to efficient information management systems. Specialist roles in "knowledge sifting" and information broking will emerge. An over-arching understanding of knowledge itself will be essential. One example of such a framework is identified by Standards Australia:

- Knowledge Alignment – Establishing the context and analysing how knowledge can be best used to achieve organisational aims.
- Knowledge Processes – Determining which of the knowledge sharing, acquisition or creation processes are most appropriate to use.
- Knowledge Foundations – Identifying the cultural environment, enabling technologies and organisational systems needed to ensure knowledge is managed in a sustainable manner.

## **Issues**

The major issues associated with knowledge work are below.

- **The widening gap between knowledge 'haves' versus 'have-nots'**. Workers in the industrial and developing world will generally have superior access to information, but increasingly, the division between the two groups will not parallel national borders.

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Communities of interest will cluster around a topic, an issue or a field of knowledge. Such communities are unconstrained by physical, cultural and temporal boundaries. Project teams will draw members from appropriate communities, with collaboration increasingly occurring online.

- **Spectrum of knowledge work.** All knowledge workers manage information as their primary resource. However, there is a sub-category of knowledge workers emerging – “the creative class” – designers, artists and associated professionals whose common currency is *form* rather than merely ‘information’. This group are distinguished by the fact that they are generating new knowledge by engaging in creative activities. Knowledge workers will routinely sign contractual obligations with respect to intellectual property.
- **Access to training.** More training will be delivered via the internet. Online training can be accessed more cheaply, more easily and in a more timely manner than traditional classroom learning. However, it does not suit all individuals. The skill sets needed to package and effectively deliver such training are still evolving.
- **Decentralised workforce.** Factors such as accessibility of information, security, revised terms of engagement and the urge for a better lifestyle balance, mean more knowledge workers will choose to base themselves at home or in corporate hotels. The workforce will be decentralised, with consequential challenges for management and team leaders.
- **Blurring between work and home.** One main advantage of home-based work is that it reduces the rigidity of working hours. However, because work is ‘always there’, some workers will tend to spend even more hours working than when they were on a set schedule. Workers will also want the ability to work ‘anywhere/anytime’, including in aircraft, public and private transport.
- **Diminished worker loyalty.** Just as employers will be more attracted to the task-oriented project team concept of operations, employees will be less inclined towards restrictive, full-time, permanent conditions of service.
- **Lower level empowerment.** For virtual project teams to succeed, team members must be empowered with specific subtasks. Hierarchies will be supplemented by network control structures.
- **Challenges for managers.** Managing virtual project teams of knowledge workers engaged on innovative tasks, maintaining the focus and interest of the individuals, and guaranteeing the security and integrity of their products, will demand a more flexible approach to achieving business goals.

## Implications

The main implications of knowledge-work for the workplace are below.

- **New ways of working.** With a more decentralised workforce, there will be greater reliance on communications and bandwidth. Home and hotel-based workstations will need to replicate the functionality experienced in the traditional office. For the creative class, whose common

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currency is form rather than information, there will be requirements for an environment and for technology which supports tele-creation rather than tele-communication.

- **More personalised demands for furniture.** With more home-based workers, increased access to information, easy access to products across the globe and more females participating in the knowledge workforce, preferences and demands for office furniture are likely to increase. Specifications, such as size, shape, style, colour and functionality will be more personalised. Customers will be attracted to the ability to choose what they want and to have the item specified, ordered and paid for online. Naturally, they will also be attracted to a company that can guarantee satisfactory delivery of the specified product within an agreed timeframe.
- **Furniture as a condition of employment.** Employers are likely to include home office fittings, including information technology and office furniture as part of the package of remuneration offered to people participating in projects. On completion of the project, those fittings may be offered for sale to the individual or, particularly if the office suite contains unique software or other features, it may be withdrawn and re-issued. Therefore, furniture will need to be increasingly compact, modular, robust and able to be disassembled and relocated easily.
- **More family-friendly office space**
  - **At home.** For extra appeal, home-based office furniture will need to be 'child-proof' and child-safe', compact, modular and portable. Home-workers with children may wish to be able to reconfigure their workstation into a cubicle arrangement. Maximum functionality needs to be embraced in the smallest reasonable space.
  - **In the office.** To attract and retain talent to work in a centralised, collaborative work area, companies will need to provide family-friendly facilities such as child daycare, cyber-coffee shops, and recreation areas. Some workspaces, team spaces and break-out areas will be set up to allow business to be conducted in a less formal setting. These will resemble cafés, but will be supported by unobtrusive technology.
- **Multi-functionality.** If more office furniture is home-based and more hours are being spent at the workstation, it follows that comfort, aesthetic appeal and multi-functionality (for use in business and home affairs) of office furniture will be important.

## Conclusion

The Western workplace in 2012 will be populated by knowledge workers, but it will be different to the workplace of today. Alterations in the demographic mix, coupled with further developments in technology herald new possibilities and changing expectations. The cumulative effect is leading inexorably to fundamental changes in the meaning and nature of work.

This will be the single most influential force in shaping the workplace of the future.

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