

# Perspectives for Employment in the Transition to a Knowledge Society

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## **The Lisbon Strategy: The Changing Nature Of Work In A Knowledge Economy**

The future of work and employment in a networked knowledge society must be seen in the context of four inter-related trends: the continued professionalization of work in a service economy; the trend to higher information–value in all products and services; globalisation of the economy, notably now for services, and the accelerating pace of change.

These trends lead some to great pessimism about the future of employment, as manufacturing industry declines in economic importance and the employment structures associated with it begin to evaporate: in 1900, 60% of jobs in the UK were in farming, mining and manufacturing; by 1950, these sectors provided 40% of jobs; and in 1999, they provide only 16%. Others see reason for great optimism as a ‘long boom’ associated with a transition to a networked global information society spreads prosperity to a much higher proportion of the world population.

In this vision, everyone in this society can have skills, ideas, experience, creativity or time that others are willing to pay for. In fact, the job losses have been more than compensated by new job creation in services: the total UK working population was 20 million in 1950; it is now at a record 27 million, with most of the new jobs in education, health-care, finance and food/catering services.

What infrastructures and market mechanisms will mediate this new economy? Will they be accessible to all, or will the knowledge economy be only for the educated elite?

## Professionalization: Unpaid Activities Become Paid Services

In the Western, Christian culture, work is the central feature in life: it determines a person's status in society and provides both the necessities of life and material wealth. During the industrial revolution, largely within the last 200 years, work has also largely become synonymous with employment; it has become a profession for most people (although this trend is far from complete and will continue into an information society), and dependent on organised structures – whether private companies, government administrations or networks of self-employed individuals.

The trend towards the commercialisation of work has accelerated in the last 20 years with increases in overall prosperity, with the complexity of social organisation, and with the continuing shift towards a service economy. This trend currently continues to encroach on the set of previously unpaid activities done mainly by women in the house, as women are increasingly drawn themselves into paid employment. The recent changes are best illustrated in the areas of core 'housework' tasks of cooking, child rearing and cleaning/washing.

## New Value Chains

The fundamental process of adding value by conceiving and producing products and services doesn't change. The ownership and linkage of different parts changes, and the relative 'weight' of different parts changes, as we move into an information society.

If the value chain is (artificially) separated into the five phases of design, production, advertising/packaging, retail and after-sales services, the relative 'weight' in terms of investment and employment have changed dramatically in the last 20 years from an industrial to a service paradigm.

The industrial paradigm was characterised by the dominance of the mass production. Henry Ford's Model T was a triumph of production engineering. However, in today's emerging information society, more than 70% of the retail value of a car is related to immaterial features – only 16% reflects the price of raw materials (steel, plastic and rubber). The informative content (microprocessors and software) is worth more, and the advertising, retailing and after-sales services represent about 40%. The design and retail phases have become both more critical to commercial success and the most expensive.

This trend will continue; the highest value-added will be in immaterial design work; in advertising, retail and after-sales service, with the latter taking the dominant place as 'car manufacturers' migrate up the value chain to become 'mobility service providers'.

## Globalisation

With the completion of the liberalisation of world trade in Uruguay Round; the recent political commitment to further liberalisation for services in Doha; and the shrinking of distance through global communications networks; economic activities are more than ever integrated and interconnected around the world. This has led to fears in Europe that capital, enterprise and jobs will increasingly move to countries where labour is cheap.

These fears are largely unfounded; and the evidence of the last decades is more optimistic: firstly because the idea that there is a fixed volume of work to share around is a fallacy. The more people in employment, the more jobs there will be for others everywhere in the world. Global job creation has been exceptionally high in the last 25 years -- in developed countries (the USA, Canada, Japan have seen indigenous job creation of over 65 million jobs) at the same time as over 500 million jobs have been created in the developing countries of Asia.

Secondly, the OECD 'job study'<sup>1</sup> of 1998 showed that new job creation has been strongest in those countries which have invested most in information and communication technologies. More jobs were created in the US between 1975 and 1995 than in the 20 previous years: because of the IT revolution. Since 1985, about 50% of new jobs were in the managerial and professional service sectors, and 70% were high-skill, high pay.

## An Accelerating Pace of Change

We all suffer from this: And perhaps our generation is the one that has had to live through the critical period in which for the first time the lifetime of a 'job' has become shorter than our working life. In previous centuries and generations, skills and professions were learned for life: 'Apprenticeship', then school education and vocational/professional training, prepared people for a lifetime of work as a carpenter, a miner, a doctor or an accountant. Yet during our working lives some of these professions have almost disappeared in Europe.

This has its effect in the labour market: the average duration of 'employment' has become shorter -- now about 6 years in the EU -- but not by as much as many people feared: 'lifetime employment' is not disappearing when organisations are able to re-skill and re-deploy people in a flexible and effective way. Nevertheless, there is a growing mismatch between skills learnt when young (up to 25) and the skills required for new jobs today: especially with the ageing workforce in the EU.

Life-time learning has therefore become a key priority in the eEurope Action Plan and in European employment policies: 'investing in employability and adaptability of people' through a revitalised and advanced education and training system; workplace re-skilling; self-training; new access to training and conversion courses for older workers.

There is already a 'skills gap' for IT and e-commerce specialists, especially those with softer 'social skills' of team-working, creativity and communications<sup>2</sup>. The private sector is already the major investor in 'management-training' and will need to broaden this type of 'work management' and 'creativity' training to most people in knowledge-related activities.

The faster pace of change also increases stress in work: more than 41 million EU workers are affected by work-related stress each year. The European Week for Safety and Health at Work 2002 will aim at tackling this growing problem by increasing awareness of these and other psychosocial risks as well as promoting and developing preventive measures. At the Stockholm Summit, Heads of State also addressed the 'quality of work', both in the life/work balance; and in terms of workplace safety. The Commission has now proposed to *develop by 2003 a comprehensive Community strategy to promote health and safety at work, to achieve a substantial reduction in work accidents and professional illness.*

## **New Work Opportunities For All?**

### **What Do We Mean by 'All'?**

In 1993, the Commission raised the stakes in the 'full employment' debate by highlighting the relatively low level of participation in the formal labour market in Europe (60%, compared with 70% in Japan and 75% in the USA), as well as the disparity between jobs and those seeking employment (the traditional 'unemployment' figures).

In March 2000, the European Heads of State set a new strategic goal to raise the employment rate to near 70% and to increase the proportion of working-age women in employment to more than 60% in 2010. In Stockholm, in March 2001, these goals were reinforced by intermediate targets for women in 2005 and for older workers in 2010. In March 2001, European Heads of State reviewed progress. Europe enjoyed 3.5% growth in 2000, and unemployment fell to its lowest level since 1991. However, in the current slowdown, renewed efforts must be made to accelerate structural change, notably to get more flexibility and creativity into work.

Innovation and technology change are still driving job creation. Investments in ICT have contributed over 0.5% per year to growth since 1995, and job creation has been particularly strong in the ICT and related business services with over 3.5 million new jobs. In the last 5 years, high-skill non-manual 'eWork' has accounted for over 60% of the new jobs: 1.5 million in the high-tech sector itself, and over 5 million with higher education qualifications

In most EU-countries, the same goal of a higher participatory workforce is addressed through policies to re-integrate the 'excluded' – whether through racism, lack of skills, disability, homelessness or misfortune. It is anyway clear that we are going to need much more flexible, part-time, and local work opportunities to get another 10% of the potential workforce into employment (going from 60-70% of the total workforce), especially as an ageing workforce will be more conscious of 'quality-of-life' issues and less mobile: we will have 10 million more people over 50 in the workforce by 2010, and the proportion of people with disability is likely to increase from 11% today to 17% in 2020.

## User-Friendly Work-Tools and Work Organisation

Clear choices will have to be made to increase participation in the workforce:

- Do we invest in making work-tools easier to learn and use; or do we invest in re-training everyone in their use every time they change?
- Do we invest in road and public transport systems to allow more people to travel to work, or do we invest in 'bringing work opportunities' nearer home?

Of course these choices are not black and white: they are questions of balance in investment. This has already started to shift: The explicit focus on 'user friendly' information society technology development at EU level; and the modest trimming back of road-building programmes in the UK and NL. In its proposal for a sustainable development strategy, the Commission proposed to de-couple transport growth from GDP growth in order to reduce congestion and to promote more balanced regional development by reducing disparities in economic activity; maintaining the viability of rural and urban communities.

There is nevertheless far to go. The average commuting times and distances are greater than ever. The annual public and private investment in IT training for the workforce is greater than ever, and still rising fast.

## **New Organisation and Employment Structures**

The third major question is what social structures will organise this global market for services – one in which most people have to manage their own affairs, or one in which security and stability will be provided by private companies and government organisations?

### **Effects of Scale**

The ability to find customers for a specialist skill depends on a large enough pool of potential clients. This is why the variety of services in cities has always been greater than in small towns or villages: it is why the Internet has a wider variety of services/information than any corporate intranet; it is why bio-diversity is less when habitats are fragmented; and it is why economic growth in an information society is so intimately linked to globalisation of the service sectors in our economies.

But the scale of markets, and the complexity of inter-related services also influences the organisational 'ecology' of the economy. For the same reason that you don't get large animals in small habitats, you don't get large companies in small towns. But when you integrate smaller economies, larger economic units become viable. The completion of the single market in Europe allowed companies in some sectors to amalgamate (by merger or acquisition). Similarly the current economic globalisation is producing a new set of global giants in accountancy, banking, media, IT, telecoms, oil and insurance. These giants will be world leaders in technology and service development; they will 'set the standards' for price and quality of service; and they will 'structure markets', but they will collectively represent a diminishing proportion of world direct employment. They will increasingly dominate the newspapers and stock exchanges, but it is their increasingly wide networks of smaller suppliers and collaborators that will provide employment.

The largest volume of new job creation will remain at the bottom of the business size spectrum: small businesses (<250) represent over 80% of employment in Europe and generate proportionally twice as many new jobs as large companies.

We therefore have the intriguing prospect that a new generation of global giants will set the economic environment for work; they will develop the tools and set the models and expectations for work, but most people will have to use these tools in dramatically different circumstances – of small companies, working near home without the various support services offered by larger organisations.

## Growing Complexity

At the same time, the growing complexity and amount of 'embedded knowledge' in products and services, is making all activities more interdependent than ever. Car manufacture now depends on specialist suppliers of machine tools, special materials, chemicals and financial services. The world of business is not therefore being polarised into a few large and many small *independent* companies; but is restructuring as fewer global focal points for a large number of interlocking and highly dependent networks of supply and co-operation.

The implications for work and employment are relatively re-assuring: firstly, that this trend is *not* towards a model of individual and autonomous self-employment in a chaotic free market; but rather towards a model in which even self-employment will be in a framework of 'networks of co-operation' which will have some stability over time beyond an immediate 'project' or 'job' – the proportion of people in self-employment has in fact declined from 15.4% to 14.4% in the EU since 1988 and is lowest in the most developed knowledge economies (US: 7.7%). The recent results of research in the EU STAR project has confirmed that the myth that 'e-lancing' will be the employment model of the future is without foundation. However, in the knowledge economy, integration of people into the culture of the organisation, will depend more on 'stakeholder' commitments and benefits, rather than proximity.

A key issue will be the degree of stability and 'social protection' associated with the employment 'networks'. Some new models have emerged: temporary employment agencies offering holidays, sickness and maternity leave/benefits to staff 'on their books' for a long time; the 'big-five' accountancy/business service 'partnerships' such as Anderson, PWC, etc. providing a framework for ever-changing teams to move from one project to the next with continuity of employment. These organisation frameworks which allow different skills to be pulled together at short notice in ever changing combinations can not only make more effective use of skills for clients, but can also provide security and continuity for the individuals involved.

## Mobility of People and Work

The localization of work will also change. With 'telework' and 'virtual enterprises', the geographic spread of companies will broaden. Companies will develop different activities in different countries, and employees will also disperse. In 2000, there are already about 10 million 'teleworkers' in Europe<sup>3</sup>, and over 20 million in the USA<sup>4</sup>. The Gartner Group predicts that 130 million people will telework by 2003. A UK survey indicates that the one million UK teleworkers in 1999 will grow to over 50%

of the working population by 2010. A recent IDC survey predicts that there will be 28 million eWorkers in Europe by 2005.

The survey results from the EU EMERGENCE project show that over 50% of businesses in Europe already make use of external services provided over communications networks.

Work and employment for all will require structural change in society; radical change in the way organisations manage their activities, provide service and employ people. eWork is central to these changes, and has a special place in the European model:

- For global competitiveness, European companies will need to maximise efficiency in use of skills because of high wage costs; they will need to minimise 'non-wage' costs; and they will need to provide high-quality services by being closer to their customers: eWork contributes to all three goals.
- The geographic mobility of Europe's workforce is substantially less than in the US, *and decreasing*. Over 25% of Americans move state to work; less than 3% of Europeans move to another country to work -- and with the economic convergence of Portugal, Spain and Ireland, the figure is decreasing. The barriers to mobility are no longer regulatory -- the Single Market exists in employment market -- but people are 'culturally anchored' to their regions of birth more strongly in Europe than in the US. eWork can compensate for poor labour force mobility, by greater 'virtual' mobility of work.
- People's quality-of-life is increasingly important, and the proximity of home and work is critical to it. As we move towards a shorter working week and to greater involvement in part-time work; proximity will become more important. eWork is part of the solution.

Finally, the European Union is now committed to sustainability as an overall policy goal in the Amsterdam Treaty. Structural change in production and work organisation is crucial.

## Corporate Governance

New approaches to 'governance', both within the EU and globally, will be essential to progress. Globalisation and network-based activities raise extra-territorial governance issues, some of which can only be handled collaboratively between multi-national businesses and civil society organisations: Structural change in lifestyles and business practices throughout the world -- will need the commitment of civil society and the business community.

*It is European policy to encouraging a greater sense of corporate social responsibility and to establish frameworks for businesses to integrate environmental and social considerations in their activities. Some of the most far sighted businesses have realised that sustainable development offers new opportunities and have begun to adapt their reporting arrangements accordingly. The Union's efforts to achieve sustainable development ultimately depend on widespread 'ownership' of the strategy by individual and businesses.*

However, we cannot expect that businesses take on the same broad social and environmental responsibilities as Governments. While the three main categories of concern in sustainable development, the economic, social and environmental dimensions are all pertinent to both governments and businesses, their focus is inevitably different.

While governments must concern themselves with the overall stability of the economic environment, and with the sustainability of economic resources for essential public services, businesses must ensure their continued profitability and renewal. Milton Friedman once said, "There is only one social responsibility of business – to increase its profits..." He (and more recently Martin Wolf in the FT) have seen meeting this and other responsibilities as a zero-sum game – efforts towards others goals can only be at the expense of profits. Others fortunately now see a more holistic relationship in which businesses constantly evolve to meet society's goals and, in doing so, achieve continued profitability in new markets. There is good evidence for this is now in the success of ethical investment funds.

For socially sustainable development, European governments have consistently seen their priority as the increase of participation in employment, with more and better job opportunities for a better-trained workforce leading to greater social inclusion and cohesion. Businesses must look firstly to the well-being and creativity of their own workforce. These concerns are reflected in the now established provisions for health and safety at work, but also now in the new concerns for the 'quality of work' – as highlighted at the Stockholm Summit – and in the requirements for life-long, in-work learning of new skills, and in-work entrepreneurship and creativity.

Over the last century, ensuring workers' health and safety has become recognised as 'good business', underpinned by legislation. Increasing the 'quality of work' along with skills and creativity is now also increasingly recognised as 'good business', especially in the ICT sector where skills are still in short supply and need to be continually renewed.

For environmentally sustainable development, the diversity of business activities presents considerable difficulty – the Global Reporting Initiative has identified 36

potential indicators of environmental impact. However, for the knowledge-based 'e-economy', a number of simplifications and priorities can be identified:

- Firstly, and because a substantial part of activities and services are knowledge-based and immaterial, a holistic view of a company's activities must be taken, rather than a product-based view. The 'office-based' activities of research, design, administration and customer-service have often more impact than manufacturing and product use themselves. This is well illustrated by the Ericsson Report for 2000: twice as much energy and nearly twice as much (585/335 ktons) of CO<sub>2</sub> were associated with office work as with production. Opportunities for more efficient use of energy and office space (*and* for greater creativity and added-value) exist in new office designs, more energy-efficient buildings, and greater use of telework arrangements. Greater value can be added to services with the same resources.
- Secondly, a company's impact does not stop at the factory gate or office door. 'Office work' includes business travel, by car and air: 'Air-miles' can represent a significant contribution total energy use, CO<sub>2</sub> emissions and congestion. These can be significantly cut by eWork and video-conferencing. Similarly, the total person car-kms associated with commuting and inter-office travel can be significantly cut by telework arrangements. Supply chains and distribution chains can be rationalised, notably through e-commerce developments: Warehousing and inventories can be minimised, and total transport tonne-kms or 'truck-kms' can be cut, cutting costs, improving efficiencies and reducing environmental impact and congestion;
- Finally, no absolute standards or targets exist against which companies can compare their performance. Benchmarking between companies can also be difficult. Incremental and continuous improvement must therefore be sought, with year-by-year comparison on a 'per-unit turnover' basis. Successful company growth in turnover and profitability is then factored out of impact measures, removing any apparent conflict between growth and environmental impact.

Leadership is being taken by the ICT sector itself: This sector best masters its own technology and must pioneer both the transition to a networked knowledge economy and sustainable development in it. This sector can also help to re-build common ground between the EU and US through a business-led approach to sustainable development. The global eSustainability Initiative is the first manifestation of this leadership.

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