Rethinking work in the information age

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RETHINKING WORK IN THE INFORMATION AGE

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How can the bird that is born for joy
Sit in the cage and sing?

William Blake, The School Boy

Work consists of whatever a body is obliged to do, while **Play** consists of what a body is not obliged to do.

Mark Twain, The Adventures of Tom Sawyer - Chapter II : The Glorious Whitewasher

Mr. Chairman, Members of the Panel, Ladies & Gentlemen,

Before we delve into the new form that work might take in the emerging knowledge economy, let us go back into history to understand the genesis and evolution of work, organization and technology.

From the time of early man's hunter-gatherer society, through the agricultural and industrial societies and right until today's knowledge society, human nature in its essential aspects remains unchanged.

Humans like all animals seek survival, freedom and leisure. Humans also continue to retain their basic acquisitive nature, and one might add that this nature has got stronger over the years.

So where does work fit into human evolution? Why has work become so important, and why should we be so focussed on the impact of technology on the way work is organized and performed? These questions are useful to answer before we discuss the impact of the latest information technologies on work & life.

If we go back to the hunter-gather age, we can be sure the majority of our ancestors did not much enjoy the task of killing a mammoth for their food. Or fighting the saber-toothed tiger. However, it was something they were obliged to do to stay alive and feed themselves. This is perhaps the origin of the activity called **WORK**. This desperate need for survival thrust upon the fittest of the society the **WORK** of feeding and protecting the tribe. It may not have been fun, but it had to be done.

In man's desire to get the work done as safely and fast as possible (perhaps so that he could return to a leisurely nap in his cave) he created tools for protection and hunting called weapons. Thus was born **TECHNOLOGY**. The tribe itself was the first formal **ORGANISATION** invented to help early man combine forces to outwit and outnumber wild animals. As time evolved, membership to and status within a tribe was dependent on the ability of a member to contribute to its survival and well being through the work a member could do. The first form of **CLASS** in society began to emerge at this time. Status in society began to get associated with the work one did.

As man evolved from a nomadic to an agrarian existence, a feudal organization replaced his tribal one. In addition, due to the greater complexity of the agrarian society and the constant evolution of technology, there were more jobs to be done. Thus began the emergence of the **TRADES & PROFESSIONS**. As time went by, **WORK** allocated to a member of the organization was no

longer dependent on his capability alone but more and more on his family background. A butcher's son would become a butcher and a king's son a king.

An important change occurred during this phase, which has ramifications to this day. As the trades developed, man found a need for easy exchange of services between members of society and created the concept of BARTER TRADE and eventually MONEY. From this stage, work in society was done not just for survival, protection, or well being of society, but also to satisfy man's desire to acquire possessions, wealth and power. Organization and technology increasingly began to become tools for oppression and power over other members of society.

With the emergence of the industrial society and capitalism, the overpowering drive for creation of personal wealth created the factory and the mechanization and automation of production. Productivity of labor became the central focus of attention. With Adam Smith came the division of labor, and with Taylor came the principles of modern management. Mass migration of labor from rural areas to cities began as society began to see industrial employment as a way out of the feudal oppression of agrarian society. As abject poverty slowly began to disappear in some industrial societies, through the trickle down effect, the demand for fair practices and treatment of labor began to increase, thus creating unionism & workers rights. Industrial labor began to get classified as blue collar and white collar, and management as a discipline evolved.

With increased automation and increased affluence, came the consumer society and with it, the service economy emerged. Shift of labor from blue-collar domain to the white collar and service sector began. Communication technology and information technology began to impact all forms of white collar work. As ICT began to automate repetitive information handling work, manual work became more focussed on "knowledge" content and "sensory" content. Creativity and Innovation slowly became important skills as against mechanical or repetitive information handling skills. And that brings us to where we are today - more or less.

Now lets take a look at a possible future work scenario.

Ladies & Gentlemen,

Imagine living at the top of the Twin Towers in Kuala Lumpur. It's a scenario worth pondering. Twenty years from now, someone might well be doing just that.

As home offices and telecommuting become the white-collar norm and offices transform into vast warehouse spaces built for portable teamwork, the face of urban KL could change from the inside out.

By 2020 the separation between work and home will have blurred, and areas once zoned for commercial use converted into live-work condominiums. Not only will such evolution make fiscal sense, but it will also make more strategic use of space in a housing-starved city where 40-story skyscrapers now stand empty 16 hours out of 24. Expensive structures used only during daylight hours will be a wasteful luxury of the past.

This could lead to a new wave of urban renewal. As one expert says, "One of the possibilities is that older cities may lose their anemia and have fully functional downtowns again. Bedroom communities may become entire communities, where people live, work and play in the same general location."

It sounds rosy, but there's a big thorn: Improved working conditions and working from home will be limited to those wearing white collars. The working classes will probably remain 9-to-5ers in hands-on, site-specific jobs.

For these employees, commutes will be longer as urban and commercial centers sprawl, pushing affordable housing farther into the suburban fringe. With fewer big-bucks executives driving them, highways could fall onto disrepair. Public transit might similarly deteriorate. Ironically, in a time of unprecedented technological breakthroughs, the working poor will most likely have it worse than ever.

Their plight will probably attract little notice as the professional sector speeds its charge toward a car-less commute. A US study reports that more than 50 percent of North American companies already have telecommuting programs, and nearly 75 percent of those companies are planning to expand their programs. The number of Americans working from home offices has nearly tripled, from 4 million in 1990 to more than 11 million in 1997, according to the U.S. Census Bureau. Most predictions put that number at 14 million to 20 million by next year. JALA International estimates that more than 3 million people now telecommute in California alone, and that in 2020 between 40 million and 50 million U.S. workers will be working from home offices.

Traditional norms of working days, working hours and leave rules will cease to exist as a full flexible-hours model of work becomes the new norm.

A combination of hoteling, virtual offices, telecommuting, and free addressing will emerge as the typical organisational practice, replacing the traditional one cubicle per employee syndrome.

White-collar work will migrate to cities in countries with high concentrations of low cost knowledge workers with good access to information and communication technology.

Large traditional organizations with huge hierarchies will be replaced more and more by virtual organizations manned only by networked contract knowledge workers.

Discrimination based on sex or of minorities will be replaced by discrimination based on subject knowledge, and on skills in use of information and communication technology.

The secretary will become the dinosaur of the industrial age, replaced by high powered software secretaries that sort, file and even compose mail and communications for the new age worker.

The sanctity of titular designations and other obsolete symbols of heirarchical organisations that rely on formal authority structures, will disappear and be replaced by influencing power and authority derived strictly from the real competence of individuals

Company loyalty might well join the KLCC Tower and other office high-rises as a casualty of this telecommuting revolution. Feelings of corporate allegiance will vanish as workers renew their skills yearly and increasingly contract themselves out, project by project, to different employers.

In the future, everyone who can will have a free-lance mind-set. A New York study in 1998 found that job loyalty had already gone from "a traditional career of one to three company/jobs to 'job hopping', with workers changing jobs every two to four years and shifting career focus several times during their working lives."

Family structures certainly will change when both parents are bringing home the bacon – and both parents are staying home with the kids. Home design will also evolve as new homes are built to accommodate the live-work lifestyle.

Employers also stand to benefit from the switch to long-distance offices. Prices of portable personal technology will have plummeted even as the cost of office space has skyrocketed, and it will be much cheaper to set up as a worker/consultant at home than on site. Corporations will go global: With proximity no longer an issue and video conferencing the norm, workers can be scattered across continents.

The lack of face-to-face contact gets some people down.

An alternative to working only at home would be collaborative, people-friendly work spaces in which employees mingle within a changing office space. In place of private cubicles, office buildings will convert into sprawling meeting areas, with portable workstations that can be relocated as needed.

There could be additional benefits from corporations' efforts to make collective work space more amenable, including everything from on-site day care to company swimming pools and social centers.

One thing's for sure: Whether workers end up owning a work/live space at the top of the KLCC Tower or setting up house in a company-based community, the term "taking your work home with you" will never be the same again.

So underlying all the likely work/life changes that are happening in our society today what are the common driving forces? There are essentially two - People and Technology.

PEOPLE over the years have changed in two important dimensions.

- View on Work and Life

From an initial point where life was purely existential with no goals and survival was human's only instinctive drive, humans have evolved into developing a whole host of needs and motivations. Searching for happiness has become the most primary goal of every human, and this has led to changing attitudes towards work. People today see work as something that must both provide for survival needs but also be an integral part of the rest of their life. Increasingly people are seeking work that permits living as full a life as desired, and not placing constraints on these desires. Contracting, tele-commuting, company communities, mobile computing, flexi-hours and many other such new work practices are all derivatives of this changing human view on work.

- Skills and Knowledge

Humans have over the years become more literate and also seek to explore their intellectual and emotional potential in more and more areas, and increasingly also more and more in parallel efforts. From a traditional view of one man one job using one skill, this changing scenario has created trends like multi-skilling, generalist jobs, frequent career changes, contracting as a practice, and an emerging life long learning trend.

Perhaps the ultimate goal for all of us is to simply be able to live our lives to the full and do everything we want to do, and let the outcome of our actions automatically lead to economic activity supporting survival needs. People are seeking a way of making Mark Twain's comment false and making work and play the same thing. This is perhaps the core of the focus of modern work/life program design. We of course still have a long way to go here.

Technology has rapidly accelerated change in work in the past 100 years. In fact this century is clearly the century of technology. Industrial automation followed by information handling automation have transformed work practices. The key aspects of work that have been affected by information technology are :

- travel

White-collar workers have always had to do two kinds of travel. One from home to office and back and the other to visit and meet with customers/suppliers, etc. The whole personal transportation industry has grown on the back of this need. The need for this kind of travel was total at a time when there were no options other than face to face interaction. Also offices stored all the data and paperwork that person needed to refer to, to be able to do his work. With information technology, much of the need for travel has actually disappeared. First telegraph, then telephone, then fax, followed by email, have removed the need for substantial amount of travel. But it is only after the possibility of full access to all office information, coupled with voice over IP and teleconferencing, that we are beginning to see the possibility of completely radical changes to this home, office, third party divide. The future will really be dependent on how humans adapt to the social changes that arise out of these structural changes.

- communication

Humans have always had to communicate. From face to face communication using sign language and later spoken language, to technology that permits remote communication like writing, telegraph, fax, email, there is now a far more versatile range of options for communication. From a viewpoint of work, these have increased productivity tremendously, but in parallel there is some view that technology has stunted human social skills over time. Emerging virtual chat, using voice over IP and internet teleconferencing will evolve to bring back the social component of communication into our lives, while the sensory component of face to face meetings will probably remain a need for some time to come. Mobile telephony will further drive the changing work practice, as people will soon begin to be able to conduct full virtual

conversations enriched by supporting data anytime/anywhere using their latest personal digital appliances.

- information processing, storage and retrieval

Beyond travel and communication, the information processing, storage and retrieval technology has also gone through major change. With high speed computers and high bandwidth networks things can be done faster, with internet and mobile appliances, things can be done anywhere and anytime. With integrated workflow and knowledge management software, human work productivity will increase rapidly and the quality of human decisions in work will also improve as more and more knowledge is made available in directly usable form JUST IN TIME for the information handling process.

The real challenge of society is however something that goes beyond technology. How do we make work not seen as a drudgery anymore, which even in the technology driven age appears to be true for many people? How do we work on each individual human and on his social interaction with others so as to make all this work not just an economic activity but a truly socially and personally satisfying one? The purpose of life is not just economic. Rather it is for each individual to live his life fully to his maximum potential. Since today's corporate organizations control most of human productive time, the challenge is for corporations to design new work/life models that help get us all closer to this ultimate goal.

TRANSPARENCY & ACCOUNTABILITY THROUGH NEW COMMUNICATION TECHNOLOGIES

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