

## Hyper Jobs and Future Skills in the Field of Energy

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**Abstract:** As we gradually approach the depth of information and knowledge era and traditional jobs are disappearing, we must seek skills which cannot be automated. Three key areas for development of future hyper jobs include: energy, material manipulation and restoration of human being. This paper examines hyper jobs and their attributes and key points and then examines hyper jobs and future skills in the field of energy and the way a jobs turns to a hyper job. In the end, success steps in designing hyper jobs and future skills are recommended.

**Key words:** Hyper jobs • Future skills • Energy field • Oil • Jobs of the future

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### INTRODUCTION

As we gradually approach the depth of information and knowledge era and traditional jobs are disappearing, we must seek skills which cannot be automated. Three key areas for development of future hyper jobs include: energy, material manipulation and restoration of human being [1].

The signs of service jobs destruction in companies and organizations can be seen every day. Receptionists who answer the phone are replaced by voice recognition and response systems, airport ticket sellers are replaced by ticket kiosks and tasks of middle managers are replaced by software which is becoming more complex every day. The most intellectual and technical occupations are also on the list of victims. For example, consider teaching jobs in universities and software design which are good and upscale jobs of today. Poor universities reduce the cost of employing professors with instructors and distance education programs which increase teachers' academic performance. Soon, all computerized educational systems will arrive in some fields [2].

Knowledge workers such as software designers are faced with extinction by the machines. Software design probably has the capability of automation more than any other technical job. Programming tools are constructed in a way to enhance programmer's productivity. Compared to the past, today fewer people are required to write a specific software program.

Social trends also affect the earning potential of software designers. For example, "open source movement" which is becoming more popular every day, has targeted the leadership of Microsoft in designing operating systems and business applications, such as word processor. This condition is excellent for people but programmers of open source often do not get paid for what they do. They work on open source software without getting paid because their main job is something else. The question is, if the open source movement goes forward with this pace and beats companies like Microsoft, what will be the future of software companies?

It doesn't matter in what level of education and intellectual powers we are. White collars, as we know and see in offices and companies, are becoming extinct [1].

Hyper human jobs will break the rules. In the future, people who are in these occupations will use forces and capacities of machines as much as they can in order to improve their competences which cannot be modernized and they will take care of those jobs in which machines have nothing to say.

Hyper jobs form on five "live skills" and three complementary skills. Live skills include [3]:

- Discovering: means finding the 'whys' of science, life and business.
- Creativity: means shaping a new thing in mind.
- Implementation: means putting creativity in the real world, the ability to implement a plan or map.

- Influencing: means to interact with others for inspiration, directing and empowerment, which is expected from a leader in the highest level.
- Physical activities: mean wise interacting with tools or body.

Complementary skills which support the key skills are:

- Basic mental skills such as perception, classification and expressing feelings.
- Symbolic thinking and interpretation including language, mathematics and using scientific signs.
- Responsibilities including Global Awareness, moral and religious sense.

**New Features of Hyper Jobs:** The main and critical feature of a hyper job is that it should be done by a live creature that acts live; that is intelligent and is aware of it.

If you act like a robot, you have accepted the risk of being replaced by it.

Consider two jobs: a surgeon and a nurse. Today, there's a robot named Penelope which can act like an assistance nurse in an emergency. This device was successfully tested in 2005 at a hospital in New York. Since the patient is unconscious and the surgical team has quite certain demands, assistance nurse doesn't need much consciousness. Penelope could easily handle tasks of the assistance nurse without any consciousness [4].

Even surgery doesn't need too much consciousness. Consider a simple surgery in which negative events that may arise during it, are already known. The most common surgeons of the future will be robots and we see its signs today.

New hyper jobs won't rely too much on machine skills like rapid counting or lawful decision making. On the contrary, they will rely on skills which are beyond digital technologies of today and maybe tomorrow.

Career success in the new millennium will depend on moving learning contexts from where electronic and digital technology can work better to a context in which conscious human beings are stronger.

Hyper jobs owners will devote most of their time to summon spirits- which was considered as "work" for unusual people like Leonardo da Vinci and Benjamin Franklin in the past. They will experience "yes" of exploration, "Why not?" of creativity and "found it...found it" of Archimedes in courageous adventures more and deeper. People who turn to hyper jobs will associate greater and deeper than others with people and participate in better and more comprehensive common goals [5].

**Change in the Shape and Nature of the Work:** The concept of "job" in its traditional sense is dead. People used to have a job, but now they want to have two or three jobs for different reasons. People used to work for others and now they want to work for themselves and sell their own goods or services. They used to try as "employees" to achieve the goals set by the "employer". Now they want to set the goals themselves or share common goals. The new generation relies heavily on hyper human skills.

Although large companies will be creating new jobs – based on hyper human skills -, there will be no mass recruitment. In the twenty-first century, most of the people should look for ways to earn a living outside the organizations and large companies [6].

What will be the hyper jobs?

Whether you're a student or an employee or a business owner, by little prospective, you will face lots of critical questions about the job: what kind of jobs will the world need in five, ten or twenty years? In the middle of the century, what skills will be expected of me or my children? Specifically, which jobs will be popular? In other words, what will be our jobs in the middle of the century?

Although millions of new jobs and better ones than traditional occupations will emerge, they won't be created by the companies but rather, people themselves will create them. These jobs will not be offered to you; instead you need to invent them. You solve vital issues in these jobs or do things that only you can and others will pay you for it. More specifically, in some fields a loud cry for solutions will be heard. These fields will have the most popular jobs[7].

**Hyper Jobs in the Field of Energy:** Nowadays, most of our energy comes from oil but it will end someday. Many believe that world oil production has already reached its peak or it will in twenty years. In the coming years, oil price and the things that work with it or are built from it will increase greatly. Shortages of fuel will disrupt everything - production, trade and transport -, let alone the global economy and political stability. Imagine Tokyo, Sao Paulo or New York just a week without electricity, transportation or communication. These widespread and different disruptions will enhance the need for jobs like police, emergency medical and military occupations. Some needs are less obvious, like taming explosions, epidemics, looting and psychosocial consequences arising from such problems. Some existing jobs like researchers and knowledge workers in the field of nanotechnology,

ownership of banks or credits and financial institutions will also be affected by the negative effects of these disorders. Because without oil there is no internet and without it, we don't have many other things [8].

One important field in which we can look for golden and money making hyper jobs is helping to promote non-oil economy and participate in international efforts to create a global economy without oil and moving toward the "sound energy". Many hyper jobs will emerge in this new industry. Apart from direct involvement in alternative energy businesses, one of the priorities of each hyper job is financial support of other businesses which want to release the world from oil and lead it to renewable energies [9].

**Future Management and Leadership:** Another potential effect of these new technologies is the increasing isolation of individual employees. The virtual environment still looks and feels very artificial and cannot provide a sense of social connectivity that underpins all traditional approaches to managing people. With reduced human interaction, people may become de-sensitized and detached from others. There is a real potential for people to turn their backs on the real world and become "contented zombies": wandering around synthetic artificial worlds.

There are indications that this is already happening. These technologies will certainly make it easier, quicker and less expensive for people to communicate with one another. They may contribute to the globalization of not only trade and commerce and to greater international political, social and cultural integration and a move away from the tribal and ethnic conflicts that have dominated human history. The transition from a nation-based industrial age to a global digital age will require people other than technical specialists to provide input into developing new management and leadership skills.

Furthermore, mechanisms to 'manage' technological changes have been historically unsuccessful, as technological development has always outpaced the ability of governments or business to regulate its use [10].

New technologies mean that employees are increasingly able to work for organizations where the work environment is the employee's home or anywhere else they happen to be.

The isolation of individuals within virtual organizations may lead to feelings of alienation or anomie amongst employees who feel they don't belong either to a team or to a larger organization. To ameliorate the impact of isolation or cyber stress, organizational leaders need to understand that almost all humans are genetically hard-wired to be social.

This has profound implications for the teaching obtraditional models of leadership and management in business and management departments.

Working in this environment will also create enormous challenges for employers and employees. New strategies are urgently required to effectively manage the impact of these emerging technologies. successful management in a high tech virtual organization may well utilize some of the principles of best practice in traditional organizations [10]

However, there is little doubt that new technologies will not only continue to accelerate the pace of change in organizations but they will begin to do more "thinking" and "managing" for us.

### **Hyper Jobs in the Field of Material Manipulation**

#### **Future Jobs:**

How will the jobs change?

#### **Common Jobs of Yesterday:**

- One job per worker
- employment in a company
- Task-oriented
- Relying on specialized skills such as accounting or engineering
- working for money (to pay for compensation)

#### **Popular Jobs of Tomorrow:**

- Jobs which are simultaneously multiple (multipurpose).
- Self-employment
- Purposeful
- Relying on highlighted human skills such as analysis, creativity and responsibility.
- Compensation of work by paying money or other forms of social exchange from purchase to pay for the time of the work.

What kinds of jobs will the world need in five, ten or twenty years?

Although millions of new jobs and better ones than traditional occupations will emerge, they won't be created by the companies but rather, people themselves will create them. These jobs will not be offered to you; instead you need to invent them.

### **Future Occupations Needs:**

- Leadership
- Self-leading (necessary personal qualifications for the leader)
- Guiding others leadership

All hyper jobs, from education and consulting to the show, have the same goal: Helping others to improve hyper human capabilities which include:

- Understanding “why” through exploration
- The creation of new ideas through creativity
- A positive impact on others, with the help of social skills which include partner seeking and communication to negotiate and leadership
- Appropriate and accurate use of "body" and doing work through a wide range of activities such as gardening, acting, cooking and...[11]

### **How to invent a hyper job?**

No one will offer you a hyper job. It is you who invent it by exploring new opportunities and challenges. We quote the story of someone who really did it. Early in 1990, an expert on telecommunications left his job at AT and T Company and became an independent consultant. Not long after, he became very rich. He enjoyed his new-gained courage and flexibility and discovered that his lectures are very popular. When hyper technologies' bubble burst, customers such as AT and T and Cisco suddenly changed their direction. He became poor and no one paid attention to his lectures. What could he do?

He looked around and found that many of his neighbors have problems with viruses and increasingly complex operating systems. They asked for his help and he immediately found a new job: he could be a computer doctor [1].

There are four interesting points in this story. First of all, he realized that in large corporations, his expected flexibility and peace of mind doesn't exist. Therefore, he left his job and became self-employed. Wait and this will happen to you in the future: the protection of the organization or company where you work will not be very reliable in the future. The second point is that when his business faced a recession, he started from scratch and used his creativity. He asked: “why am I here? What am I good at? Which new customers need me?” and following these questions, he found a new career path. As technical, economic and social developments speed up, we have to modernize our thinking and innovation skills.

The third point is that his new job was not previously known and approved. Computer doctor cannot be found in any economic or employment dictionary. Moreover, when I searched "computer doctor" term in two famous databases, Monster.com job and hotjobs.com, no separate list was found. But when I searched the same word in Google, I found 40400 pages. This indicates that many others have discovered these requirements and are drawn to this profession. Nowadays, the landscape of career opportunities changes so fast that even state watchers or large companies that are known to invent new jobs are left behind. The best job listing is daily news search engines. And finally, the fourth point is that he behaved responsible at the forefront of his mind and behavior. His success key was his reliability. He says: “people come to me not just because I can fix their computers, but also because I'm a kind of person that you can leave your family alone with me at home [1,5]”.

This is an example of creating a job from scratch. There was a hidden demand and only a sharp eye could see it. Of course there is another way to create a job: modify your current job.

**Transforming a Current Job to a Hyper Job:** How can we create millions of hyper jobs?, Because any job can be transformed to a hyper job. This transformation is very easy and consists of two steps:

**First Step:** automatize your current job as much as you can. Use paper, cover modification or any other creativity and leave a part of your job to computers. In this way you can get rid of doing all these work. In fact, you are commanding a robot to take over your job: “you are hired and this is what I want you to do.”

**Second Step:** develop the hyper human aspects of your job. Review the list of five basic skills and three helping skills. Find out in which aspect of the job you can use more creativity. Or find out why some things don't operate properly or improve their efficiency by more effective connections. Imagine you've become more responsible or the quality of your responsibilities has grown. Not all of us can and will become Nano researchers. This world has a place for every mood and taste: people who want to use their hands more than their brain or those who enjoy working with new people more than dealing with new ideas. Future hyper jobs include all these differences. All hyper human kills, even those dealing with goods, are safe from becoming mechanized if they are pursuit with consciousness. Even if one job is completely mechanized, its operator can revive it with the

following two steps approach and this time this job is a hyper job. This situation can happen to many employees in office, financial and support jobs and if they don't act wisely, they might lose their jobs. In the first step, the job must proceed with mechanizing process and he should find ways to do the job with less effort and time. In this way, he helps the organization management to mechanizing the job and benefiting from enhanced technologies. Then the operator (if he hasn't lost his job) should use his free time to improve his hyper human skills. He should improve his intimacy with the customers and efficiency and ask his manager to give him more responsibilities and tasks. He must use his creativity to solve problematic issues in business and offer new solutions [9].

All current jobs, from cashier to manager and from accountant to zoologist, can climb the ladder of hyper job. Innovations are made by people who are more enthusiastic to transformation: the owners of the jobs.

**Hyper Jobs Emerge:** Future hyper jobs may be completely new or improved version of modern jobs and they are probably different from today's jobs in quality and they focus on hyper human skills more.

### CONCLUSION

According to studied cases, five steps are suggested for those who want to have a decent and money making hyper job in the field of energy:

- Decide which hyper human skills - exploration, creativity, implementation, effectiveness or physical activity – fit you more. Plan your internship and job creation around this axis, not on a traditional profession like chemical engineering or English literature. Although specialized knowledge is still important, it is less precious than hyper human skills which are permanent and cannot be mechanized.
- Determine what field and mission you want to focus on. Decide which troubling and full of vital issues field you want to tackle: Energy, materials manipulation or restoration of man. You should choose a field which is compatible with your interests and solves a common problem of human beings. It is important to try your hardest to use your talents in the right direction.
- Pay attention to appropriate wage. If money is an issue, you'll probably need to seek and negotiate more, but money should not distract you from your

main mission which is participation in solving common problems of humanity. Almost all jobs, even the simplest ones, can become valuable and rewarding with injection of hyper human energy. If you can, focus on two or three jobs simultaneously. Use unconventional forms of collaboration and cooperation.

- Become more flexible by having several jobs. Have above-mentioned two-step process in mind: Get rid of any activity that could be mechanized. Then concentrate on strengthening your hyper human skills. Hyper jobs become common and lose their boom faster than today's jobs. It is good to be a master in everything and make it automatic, then pursuit your general goal.
- Participate in social changes at national and international levels. Individual actions, although essential, do not respond in a vacuum. Personal success and prosperity will not save us from social breakdown.

### REFERENCES

1. Samson, W. and Richard, 2005. Future Careers: the High-Potential Jobs of Tomorrow.
2. Jennings, Lane, 2005. Humanity's Near Future: Heaven, Hell, or just hanging on? The futurist, ABI / INFORM global, 39: 6.
3. Kurzweil, 2005. The Age of Spiritual Machines: When Computers Exceeds Human Intelligence, Allen and Unwin, St. Leonard's, NSW, 1999.
4. Miller, Box, How Communications Media Shape Our World, the Futurist, 39: 3.
4. Oksman, V. and J. Turtianinen, 2001. Mobile telephone and new communication cultures of teenagers-a case study of Finnish Youth, paper presented at the Cultural Social Studies of Technology Seminar, Helsinki.
5. Mansell, R. and L. Haddon, 1996. Design and the domestication of information and communication technologies: technical change and everyday life, in R. Mansell and R. Silverstone, (Eds), Communication by Design: The Politics of Information and Communication Technologies, Oxford University Press, New York, NY, pp: 44-74.
6. McCallum, J.S., 1996. Changing at warp speed: managing technology, Business Quarterly, 60: 87-93.
7. Samson, R.W., 2005. Hyper jobs: the new higher-level work and how to grow into it, the futurist; Nov/Dec 2005; ABI/INFORM Global, 39: 6.

8. senge, P.M., 1990. *The Fifth Discipline, The Art and Practice of the Learning Organization*, Doubleday, New York. N.Y.
9. Sloterman, E., 1991. *Designerbetes dola rationalitet en studie av metodik och praktik inom systemutveckling, (The hidden rationale design work: a study of the methodology and practice of systems development)*, Nr. 14.91, RRIPCS, Department of Informatics, University of Umea, Umea.
10. Nouri Beyrouti, 2006. *The Impact of Technological Innovation on Organizations, Work Environment and Personal Lives*, PICMET 2006 Proceedings, Istanbul, Turkey, Lebanese American University, School of Business, Beirut-Lebanon, pp: 1133-1138.
11. Stone, A.R., 1995. *The War of Desire and Technology in the Close of the Mechanical Age*, MIT Press, Cambridge MA.