

New Media and the Global Economy

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The new technology will affect really everybody regardless of ethnic or religious background and what is more, this phenomenon will not be limited to the United States or to Western Europe. It will have a true global impact, reaching to the most remote places in Africa, Latin America, Asia and the Far East.

The economic impact is twofold. On the one hand, there are direct effects which are related to the development, production and marketing of new products such as computer chips, telecommunication equipment, satellites and, above all, a broad range of new services. This is the impact on the IT industry and the IT companies.

The IT industry, IT and communications sector, has become a significant player as a sector in its own right in most Western economies; a fast growing sector; a profitable sector; and a major taxpayer and employer. It is most significant as a sector in the United States, accounting for more than 10 percent of this country's GDP, while the rest of the world lags behind in terms of percentage of total GDP in specific countries.

New multibillion dollar enterprises have developed in recent years. Hundreds of small software companies have developed, which means that the IT industry is not only a big company syndrome. It is a major driving force also for small and medium-sized companies, some employing just 5, 10, 15 people. And it is an area where individualists and young entrepreneurs can start their own companies, without having to wait to be employed by some large company.

It is fantastic how a new field, the IT industry and the software industry, is

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providing opportunities for people to go their own ways at an early age as entrepreneurs. And some of the people present are part of that generation, starting a new business 20-25 years ago and today employing thousands of people and having turnovers of billions of dollars.

An enormously rapid rate of change, of technology and of direction, has taken place in the last 20 years, making it difficult for the older generation to master. Hence, the people in this industry in general tend to be much younger than in the older established industries. Some players, as always happens, have stumbled, failed and gone out of business in the last few years. Others have sold out, made a quick buck and gone to Florida or the Bahamas to enjoy their profits, so they are no longer part of the business community.

The telecommunications industry is being deregulated and liberalized, and this is an irreversible trend which is far from over. It provides opportunities in many countries on a scale which we don't even understand yet. At the same time in this process, new players and new alliances are being formed so that those who are in this business see themselves exposed to new competitors, confronted with new customers all the time. So we have a multidimensional change process not only in terms of technology but also in terms of competitors and customers, the ultimate challenge to be successful in such a market.

The Scope of the I.T. is Global

There is the other side of the revolution. It has a major impact on the non-IT industries, on all corporations and business outside the IT industry, and also on people's lives.

There is the mass consumer market for home shopping, interactive videos and all the pay TV and pay services which will be part of our lifestyle in the future, even if it has not yet arrived or spread to a major extent. Then in the field of entertainment: high speed graphic computation technologies with life-like simulations like Jurassic Park and many other areas of entertainment and toys, or gambling with computers using CD-ROM bases.

Then there is the impact on industries that are not directly in the IT sector: education, health care, diagnostics, remote interaction and, last but not least, also in transportation: seat reservations, cargo, navigation, safety, all being handled through advanced IT technologies.

And when we talk about the non-IT fields — not the consumer, not the individual, not the IT companies, but the non-IT industries like the automotive industry, the chemical industry, paper industry, electrotechnical industry — all these companies that are part of the globalization of business, they need

IT infrastructure in their companies as a precondition of doing business and being competitive. The IT development is therefore fundamental for the future success and competitiveness of all industries. It's not just something which affects the IT industries as such.

And information technology is increasingly being integrated into traditional products and systems of the industries just mentioned, so much so that the information technology are incorporated in their products and are therefore carriers of such technologies.

A New Era: AC (after computer)

There is a generation gap between BC and AC in our labor force: BC standing for "before computer"; AC "after computer".

In the ABB Company, for example, two-thirds of the 210,000 employees are BC, before computer. These people grew up without computers. Only onethird of the employees at the moment are AC, they were born after the arrival of the computer. This is the real generation gap in the company. It is extremely difficult to re-educate the ACs become BCs — or vice versa. (That is an issue in itself: to have those who grew up with computers present their ideas without the support of a computer.)

Competition between countries might this time produce new winners depending on who can best create an environment where, firstly, the new technology is available at a competitive price; secondly, where the educational system is changed to promote the application of new technologies; and, thirdly, where enterprises are encouraged to carry their responsibility to educate their employees themselves in the new technologies. This is a question of the political, social and legal framework needed to be a competitive country in the race to be the location of industries, as locations for employment and as locations to attract foreign direct and indirect investment.

How will all this happen? The framework by country, by region, and the development of those various constituencies in those countries — the IT industries, the non-IT industries, the consumer, the pupils, the students, the whole scope of society — how will all this happen? Who are the winners? Who are the losers?

The Issue of Growth and Employment: The Winners and the Losers

Here we are concerned with the economic and the labor dimension, the employment issue and the growth issue.

The computer and telecommunications revolution is here and it is here to stay, and it involves much more than the Internet. It is an easy misunderstanding to talk as if the Internet were the whole story, whereas it is just one application of these new technologies.

How can we make sure that our world in this respect is a world of winners and not a world of division, friction and new walls — this time not like the Berlin Wall, but walls between haves and have-nots, walls between those who know more and those who do not know or know less? For example, are the losers in the world's financial markets losers because they don't know what others know?

One issue is — and this again concerns directly our labor forces around the globe — the graying of the working population, or as the European Union's green paper puts it, "The work force is aging and the technology is getting younger." A gap is clearly emerging between the rate of renewal of the working population, which is about 2 percent per annum in Europe, and the rate of knowledge acquisition in society at large. It is estimated for Europe that knowledge is doubling every 10-15 years, which equals 7 percent per year, whereas the labor force renewal rate is 2 percent. This means that there is no alternative to intensified training for the whole population over their whole working life to ensure they remain employable and as a precondition for reducing unemployment.

This issue is totally underestimated in the discussion of employment and unemployment in Europe. We have vacancies but often we don't have the right people to fill them, and we have lots of unemployed people but we have no jobs suitable for their present skills. So the unemployment problem in many countries and many sectors is partly an issue of non-employability because of a mismatch between skills and demands in a fast-changing market environment. On the other side, we have to face the fact that in the short run the use of IT is eliminating a large number of jobs. Nobody can predict whether in the medium or longer term they will create sufficient jobs for the young people arriving on the labour market.

Acquiring knowledge and skills should therefore no longer be limited to formal schooling in basic, secondary and higher education, but should involve all sectors of society: youngsters, middle aged, and older people; people at all levels of vocational qualification; people in work and the unemployed, and the employees being educated through companies' greater and better communicated responsibility. The private sector is the leading educator of the future. Education cannot be an eternal privilege or task of the public sector.

Today, knowledge acquired only 10 years ago and not maintained has often lost most of its value. What is the half-life of information? In the case of

many e-mails, it can be as little as four to eight hours. Even many books being published today already seem outdated one day after they were launched.

Information and communication technologies are a major driving force towards globalization — globalization in all fields, not just in commerce, industry or transportation, but even more so in culture. Globalization has been most rapid in such areas as finance, where it has been accompanied by liberalization and deregulation of financial markets, as financial capital has in essence become an international mobile production factor. It has also been rapid in areas such as services. New information and communication technologies are in many cases allowing global access to low-cost labor locations, facilitating the outsourcing of various routine service functions and activities to different parts of the world. Thousands of low-cost software developers in Eastern Europe and in India are on real time satellite connection with leading technology centers in the United States and in Western Europe, and it's as if they were next door. This is what modern information technology provides at continuously declining telecommunications costs.

For years virtual data entry workers in the Caribbean and more recently in India have worked on-line with many US companies. New media also change business as such. We have seen the first steps in the establishment of global virtual stores, with basically no need for floor space yet able to serve some 600,000 customers around the whole world. Amazon.com, an internet-based bookstore, is one of the most visible examples of what a relatively small organization can achieve in a very short period of time today. The growth has been phenomenal. In one year the sales have increased 14 fold. That Amazon.com is an American enterprise might seem inevitable, but it could have been established anywhere in the world.

However, this example shows in particular that the new technology will remove a number of the intermediate steps between the producer and the final consumer. Retailers who do not adapt to the new environment will see increasing difficulties over the next few years to protect their revenue streams as the customers purchase more or less directly from the producers using advanced IT technology tools.

New technology will also have a major impact on the way companies work together and how people work within the company. The ABB Company is a major user of groupware, video conferencing and collaborative applications linking the different parts of the company together. One in three of the 210,000 employees has a PC, and they all communicate with each other on Lotus Notes in its most advanced version. When the system was introduced some five or six years ago there were a few problems. It has had an enormous impact on the way the companies in this group work together. Hierarchy is melting away since everybody can talk to everybody else. Direct access to all levels more than one likes

sometimes, when one is the recipient — is the rule of the game and it's not a virtual network. It is a real network of people, hierarchy is gone, and individual initiative and creativity can be carried through these technologies everywhere in the company.

The Beginning of a New and Irreversible Phenomenon

However, the more we learn how to use the new technologies, the greater the impact is going to be. The utilization of these technologies is still in its infancy.

Most companies are under-utilizing these possibilities. The more the AC people familiarize themselves with these tools and the more they use it, the greater the impact will be, not only on information and work flow, but also on pulling down mental walls and opening up new ways to cooperate and to work together at company level, and very soon also in society.

Once you have learned how to use networks in a company you can also then, as an older, BC person, become familiar with utilizing these skills with the Internet, in society or for entertainment or home-based learning.

In particular there will be a huge impact on human resources management, which will suddenly be confronted with putting together cross-border virtual teams in order to execute projects. The old rules and the old habits of promotions and responsibilities do not exist anymore. There is no place for the traditional human resources director with the emancipation of the individual in the organization. The employer or the human resources department has become a service unit, rather than being at the top of the hierarchy.

Are our human resources management theories today flexible enough to handle this change? Can our organizations learn to adapt to this new organization? Probably not. Some countries, some companies, are sufficiently flexible to be among the winners in the global competition. Those who are not, who are too slow, who cannot adjust, who are suffering under cultural traditions and old habits, will lose out in the global race.

With the major changes that are going to take place in all industries due to the implementation of new technologies in business and with the complete redesign of the distribution channels and logistics chains, there does not seem to be any alternative but to adjust.

A whole generation of people aged over 60 and 70 are adjusting, and rediscovering life in the information society. This is giving them a new role to play with their brains when they cannot walk any longer. Are we ready to meet this challenge today?

Some groups face a high risk of being excluded from the new media society. This exclusion is a crucial issue and may have a variety of causes. Old people may refuse to be AC. In certain countries the governments are not deregulating and privatizing the telecommunication industries, so that the telecommunication costs are prohibitively high, preventing a significant part of the active population from making use of these technologies.

The Costs of Technology

The costs of technology and the ease of use are major bottlenecks in many places. Those countries and those companies which cannot reduce the costs of these new technologies fast enough and cannot improve the ease of use quickly enough will lose out either as locations or as companies.

The cost of hardware is decreasing, but the costs of communication are still high in a large number of countries where pay-TV, web-TV and Internet communications are unaffordable for the consumer, and even in some cases for companies.

Politicians have to act with regard to the telecommunications legislation. In Europe, where the liberalization of the telecommunication industries is happening today, and in Asia, which still has some way to go in this respect, the cost of telecommunication services is still very high compared with the United States, and this slows down the spread of technology.

Other countries where the basic infrastructure is inadequate are also not very likely to open up for liberalization. Furthermore, in certain countries the regulation relating to the use of Internet might have to be reviewed before these countries can develop further in the area of new technologies.

There is a need to create or to allow the creation of larger service providers in order to achieve economies of scale. A conflict of interest may then arise between anti-trust legislation and the economies of scale that service providers need if they are to bring down the costs of providing services for the consumers at levels affordable for the masses, and therefore the economies of scale to spread it broadly, whether for pay-TV for health services or entertainment programs.

What could happen is that anti-trust legislation disallows the quasi-monopolistic structure, but at the same time does not allow the industry to develop as a globally competitive industry in this particular field. At the same time, there is free access for the large foreign players in the field, who have established themselves already, such as the United States. The end of this is not clear, and the partners are struggling to find the structures to be able to be

globally competitive in these IT services.

How can we avoid a new two class information society, not only in terms of haves and have-nots in terms of society, but also in terms of countries which are so advanced that other countries don't have a chance to compete? There are new barriers which could create new feelings of stonewalling, protectionism or nationalism based on a belief that it is still possible to protect the country's native industries through these kinds of measures.

There is also an opportunity for countries and companies with modern IT technologies to drive multicultural developments. Many of our companies are operating on a global scale. They are multicultural companies, yet sometimes cooperation in these companies is a problem, slows consensus and slows market success, in the same way as happens in society and between countries.

At some point, modern IT technologies and common use with common protocols and common languages will achieve a multicultural, homogeneous approach which does not necessarily mean that the specific virtues of individual, regional and local cultures will be eroded. But there will be a common platform which contributes to efficiency, to peace, to cooperation and to a new global culture which, even if certain individual elements fall away, will mean that cooperation on a peaceful planet will improve.

We have touched on a number of issues with a direct impact on the global economy, for countries as locations for business and for individual companies and their relations to their employees and their future competitiveness.