
The Entrepreneur

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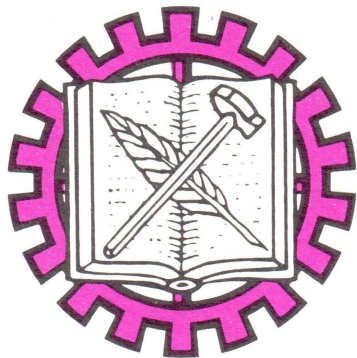
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HARDING
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The
Entrepreneur

The Belden Center for Private Enterprise Education
Harding University School of Business
Searcy, Arkansas

This issue courtesy of Mr. Steve Phillips, Phillips Lumber Co., Inc., Cedar Hill, Texas

TECHNOLOGY IS THE NEW MEASURE OF THE WEALTH OF NATIONS

Business Students Receive Awards

Harding University's Chapter of Phi Beta Lambda, a National Collegiate Business Organization, recently participated in the 25th Annual Phi Beta Lambda Intercollegiate Competition in Little Rock. The Harding Chapter, sponsored by Dr. Don Diffine, returned with top placements in 15 out of 18 events entered. The First Place winners and most Second place winners will go on to the National Phi Beta Lambda Competition July 5 - July 8 in Anaheim, California.

First Place winners included Brett Biggs, Accounting I; Paul Maynard, Accounting II; Andrea Chrisman, Business Law; Melissa Brenneman, Economics; Rick Hawkins, Mr. Future Business Executive; and Mike Andersen and Kathy Sanburg, "Who's Who in PBL." Kathy Sanburg, PBL President, and Maria Cone will represent Arkansas in the National Parliamentary Team.

Second Place winners included Gail Sutton, Business Communications; Jim Bostick, Business Computer Applications; Ben Smith, Business Law; Lori Cloud, Marketing; and Mike Andersen, Karen Norwood, Maria Cone, and Kathy Sanburg, Parliamentary Procedures.

Third Place winners included Duane Callicoat, Business Communications; Paul Maynard, Kelly Samuel, and Greg Sansom, Business Decision-Making; Tim Dean, Data Processing II; Bill Baker, Finance and Banking; Scott Celsor, Impromptu Speaking; and Stephanie Carter, Ms. Future Business Executive.

According to Dr. Diffine, Professor of Economics, our PBL members are strengthening their confidence in themselves and their work, while developing competent, assertive business leadership by growing professionally toward successful careers as Christian people. The competition is a wonderful springboard from which to pass the word about Harding University, the School of Business, its students, and its graduates.

by

John R. Opel
Chairman, Executive Committee
International Business Machines Corporation

Few leaders in American business doubt that we are in an international footrace for technological leadership. The leaders in that race will be those nations best educated and trained for it.

That statement is, I believe, a safe prediction. More detailed forecasts of the direction that technology will take are far less certain. Professor Nat Rosenberg of Stanford gives us three reasons why predicting future technological developments is so difficult:

First, we are likely to underestimate the availability of natural resources and to overlook the greater utilization we can make of them through technological enrichment. To illustrate the point, the United States has a larger quantity of usable iron ore deposits within its borders today than it did 50 years ago. Paradoxical? No, low-grade ore sources that were ignored at one time are now quite productive given the process techniques of pelletization and beneficiation used to prepare the ore for the blast furnace.

Next, we make the mistake of looking for continuities in technological change, believing that one advance leads progressively to another. That tends to be only partially correct. As often as not, the process is characterized by a discontinuity. New inventions come along and push existing products out of the way to create new markets. After all, rayon did not come from the growers of mulberry leaves, the electric light from the suppliers of kerosene, or copies from the makers of carbon paper.

And *third*, we overlook the serendipity factor — the cellular-like branching that can take place in the many uses of technologies. Antibiotics, for example, were introduced as miracle drugs for the treatment of disease. Yet today, they go into almost every kind of animal feed. We would not have a poultry industry without them, and no Chicken McNuggets at McDonalds.

Nowhere has this serendipity factor led to as much expansion as it has in computers. Forty years ago, people were say-

ing you could never make a business of computers — that you would never find more than a thousand people who run the darned things, even if you could find a thousand people who would use them. Yet today, even first-graders are using them to learn to read and write. Serendipity may have become a buzz word, but it is the seed of life to people in the computer business. New applications beget still more applications in an almost natural process that seems to have no end.

TECHNOLOGICAL CHANGE PRODUCES ECONOMIC GROWTH

But if we have been off the mark in predicting the course of technological change, we are, at long last, discovering how essential a factor it has become in economic growth. At the beginning of the industrial age, it was the *availability* of natural resources that played a major role in the development of national economies. But today, the principal determinant in economic growth is the use of those resources.

At the beginning of the industrial age, it was the availability of natural resources that played a major role in development of national economies; today, it is the ability to use those resources that determines the wealth of nations.

You do not become a wealthy nation of a world power by digging bauxite out of the ground. But when you have the competence to turn that bauxite into a 747, you have what it takes to compete. The greatest resource of all is the infinite capacity of that organic tissue found in the human head, that we call the brain.

Today, technological change has become a powerful force, one that is not only opening up new possibilities for economic growth, but one that is forcing governments to face the fact that exclusionary practices in trade have become anachronistic and detrimental to their own self-interests. Yet it was not until the middle of this present century that we began to take seriously the tremendous effect technological change would have on the utilization of those traditional components of economic behavior — land, labor, and capital. We began to comprehend how technology alters our outlook on the availability and utility of resources, how it would dramatically increase the productivity and value of labor, and how it would revolutionize the movement of capital with the creation of worldwide markets.

Ironically, Karl Marx was one of the first to perceive technological change as a new factor in the economic equation. But, then, he made one of history's great mistakes when he predicted that technological change would displace labor, lead to mass unemployment, and, ultimately, to the collapse of the capitalistic system. Given the state of technology in the Soviet economy, it would be a safe statement to say that they would have been much better off today if they had edited that gospel according to Marx before making it a state religion.

Yet, with all the change that has come about as a result of technology during the last 20 or 30 years, it is difficult

for many of us to accept the prophecies of those who tell us that the best is yet to come. Hopefully, we are not as disbelieving as the fellow who once said that the reason life is extinct on other planets is because their scientists were more advanced than ours.

Nevertheless, there would appear to be a Malthusian streak in the psyche of many of us. We wonder how long this process of "more and more" can go on in a world of finite resources with higher levels of expectation in each generation. We saw this pessimism formally expressed in 1972 when a world assembly of business leaders and scientists came together in the Club of Rome to assess the future. Their conclusions were published in the doleful treatise "The Limits to Growth." We see it today in the outlook of a despairing number of children who question whether they will ever achieve a standard of affluence comparable to that of their parents. And to be sure, as we look about the economic landscape, we can hardly be faulted if we look with a fishy eye on those who tell us the skies are blue and that technology will make them bluer. For while the skies may be blue above the clouds, we presently find a lot of dark clouds overhead.

OPTIMISTIC OUTLOOK FOR THE WORLD ECONOMY

Certainly if we choose to be worriers, we have plenty to worry about. For example, the huge federal deficit is a source of concern — the United States is already the world's greatest debtor nation and this debt is increasing. The debt owed by less-developed countries and a lack of liquidity — a condition that could bring on worldwide inflation — are also worrisome. And if these are not enough clouds, we can also be concerned about persistent protectionist pressures that could weaken the world trading system and terrorism that reminds us of how contentious and explosive are many of the world's unresolved political problems.

Yet, in spite of the chills that come when we speculate on difficulties like these, I find what Santayana calls "animal optimism" among business leaders and economists. I see a long-term economic optimism, which as Santayana puts it, "is a great renovator and disinfectant in the world."

The consensus of these business leaders and economists is that, barring a major disaster or an irrational breakdown in political leadership, the U.S. and world economies will grow faster in the next 20 to 25 years than they have in the last 15, when the real average annual rate of economic growth was under three percent. There is little disagreement among those with whom I have been meeting regarding our ability to achieve this level of growth. The disagreements come in predicting the road conditions, for there will be — as there always have been — temporary slowdowns and detours along the way.

As I have reviewed these optimistic assessments on economic growth, I have tried to identify the most important foundations for their conclusions. Here are the three that I find:

First, business leaders and economists see technological change as a major contributor and they particularly emphasize the importance of information technology in stimulating growth.

Second, they foresee the impetus that can come from further integration of national economies as business activity assumes an ever-increasing international dimension. Here they cite the flow of savings from one country to another through worldwide, integrated financial markets as a specific example.

Developing world markets offer greater options to both consumers and suppliers, and signal a trend toward a self-regulating society where market forces will play a more important role in economic matters.

And *third*, these soothsayers see these developing world markets as an added competitive stimulus that will offer greater options to both consumers and suppliers. This, they say, signals a trend toward a self-regulating society where market forces will play a more important role in economic matters. A more self-regulating society means, of course, that governments will play a lesser role. I only wish that this trend had started sooner, when I was young enough to enjoy it.

The role that information technology can play is a pervasive one. When Archimedes said, "Give me a lever long enough, and I'll lift the world," he was talking mechanics, but symbolically, information technology fits that maxim. For it is a technology so universal that it can lift the level of efficiency in almost everything we do. We see this in transaction processing where we can reserve a seat on an airplane or pick up a piece of merchandise anywhere in the world and have it billed on a credit card to our home address in our local currency. It is information technology that makes these transactions possible, and applications such as these call for some of the most complex and efficient information systems in the world.

However, it is by enhancing the utility of labor, natural resources, and capital that information technology makes its major contribution to economic growth — in everything from education and public health to reducing seismic data, controlling production processes, or integrating capital markets. In those markets, for example, it has created an equal opportunity marketplace where buyers and sellers throughout the world have equal access to the same information within seconds of one another. As a result, we have worldwide financing, worldwide competition for available assets, and wholesale movements of capital in pursuit of the best return.

THE NEW INFORMATION STANDARD

We can only begin to grasp the political implications of this new, efficient capital market, for we have created a system where the individual judgments people make, in transactions in excess of a trillion dollars each day, materially affect the

fiscal and monetary policies of governments around the world. Walter Wriston, former chairman of Citicorp, describes this process as the "Information Standard," as opposed to the "Gold Standard." In an engrossing speech he made recently, Walt said that just as there are few CEOs who are satisfied with the price-to-earning's ratio of their stock, so there are few, if any, governments, that are satisfied with the value the market places on their currency.

Walt added, "Today, information about all countries' fiscal and monetary policies is instantly transmitted to more than one-hundred thousand screens in hundreds of trading rooms in dozens of countries. As the screens light up with the latest statement of a prime minister or president, or a central banker or the Chairman of the Federal Reserve, traders make a judgment about the effect of the new policies on the relative values of the country's currency and buy or sell it accordingly. The entire globe is now tied together electronically and there is no longer any place on this planet to hide. Finance ministers who believe in sound monetary and fiscal policies are beginning to perceive that the new technology is on their side. But politicians, who wish to evade responsibility for the results of their imprudent actions on fiscal and monetary matters, correctly perceive that the new information standard will punish them."

"Like all technological advances," he said, "the new information standard makes the power structures of the world very nervous, and with good reason. The rapid dissemination of information has always changed societies and, thus, the way governments have to operate." Moreover, in responding to those market judgments, nations can no longer act with sovereign indifference to how their policies and actions might affect those of other states. Thus, the world is being pulled together as nations become mutually dependent on the actions of one another. This trend is continuing and, most importantly, irreversible.

But just as technology has intervened in monetary and fiscal policy-making, so it is causing governments to reassess their policies and practices for tariffs, trade restrictions, regulation, the nationalization of industries, and preferences given domestic suppliers of government services. For, in their endeavor to speed economic growth, in their eagerness to embrace and encourage technological change, nations are beginning to see that their national self-interests may best be served by improvements in efficiency. And to get these improvements, they are demonstrating a greater willingness to open their borders to anyone who can supply them.

In taking this view, governments are responding to the changed views of their business leaders, who have been conditioned either by their involvement in economic activities of multinational corporations, or by having to compete in international markets. This business constituency trades with one another, they enter into licensing agreements and joint ventures, and they have created a web of customer supplier relationships with like-minded organizations everywhere in the world. As a result, we are seeing the creation of an international business community, which is discovering they have a great deal in common.

The development of this world market, driven by technological change, is a slow process. Governments are going to regulate, subsidize, and otherwise protect what they perceive to be their national interest. However, as industrialization spreads around the world, it will become increasingly difficult to sustain policies which ignore economic realities. In the long run, for example, protectionism will not "protect" low-skill, labor-intensive industry. When a nation denies access to its domestic market in order to protect home industries, it may be cutting itself off from a production of raw material necessary to make its domestic industry competitive. The forces of nationalism yield slowly, but the reality of a world market tied together with free-flowing information will continue to confront the protectionist impulses that are imbedded in national attitudes.

Notwithstanding difficulties like these, when we take everything into account — the impetus technology gives to economic growth, the growing interdependence of business, the internationalization of markets, and the ways in which nations are accommodating the imperatives of technological change — I think we can be encouraged.

UNEVEN DISTRIBUTION OF THE FRUITS OF PROGRESS

If there is a serious threat to economic progress and stability, however, it probably stems from the uneven distribution of the fruits of progress available from technological advancement. Again and again, we are reminded that in much of the Third World, hundreds of millions are still living on the ragged edge of survival. With few exceptions, their progress in development has been despairingly slow. In all too many of these countries, our efforts to aid them have ended in disappointment.

Today, the industrial nations of the free world account for 15 percent of the world's population. If current trends hold, by the middle of the 21st century they will account for only five percent. It would be difficult to exaggerate the social, economic, and political implications of these shifts in population.

In the industrial nations, declining populations would mean declining markets for products, reduced opportunities for investment, and, quite possibly, a decrease in political power. And if we look to the LDCs to take up that slack, in too many we find that population growth is either inhibiting or suffocating their potential for economic development.

CONCLUSION

There is need for investment in the less-developed countries, but there is also a parallel need for something more. If that investment is to be put to work for the social and economic benefit of those third-world people, what may be needed is trade in human services, in the technical and managerial competence that is in rich supply in the industrial nations. Just as trade has drawn the industrial nations together into a community of competitive but like-minded interests, so might trade in technology help those third-world countries chart their way toward a partnership that could bring us all closer together. If we are to realize the full promise of technology and the economic growth that it can produce, we will have to discover new ways to develop a community of interest with all nations.

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