Globalization and Your Career

by Eric T-S. Pan, California Beta '84

Economic globalization has increased the flow of money, goods, services, people, and jobs across national boundaries. The trend of globalization is accelerating. Undoubtedly, globalization requires an environment of geopolitical stability and a macroeconomic system to enable growth. However, the full impact of economic globalization goes beyond national trade surpluses or deficits. Globalization has had tremendous impact on supply and demand as customers and suppliers can now transact with each other from opposite sides of the world. On the other hand, globalization has also resulted in displacement of jobs and communities and has had significant environmental impact. Given this backdrop, this article aims to:

- Identify key trends of globalization, and
- Identify how globalization impacts market and career opportunities for technical professionals, positively and negatively.

Globalization Trends

Stable macroeconomic and political environments are necessary to encourage economic development and growth through globalization. Other equally important conditions are a country’s industrial focus and infrastructure, prevailing business practices and strategies, sophistication in financial systems, workforce education and skills, governmental policies, and cultural conditions. These factors constitute the whole environment in which a country’s business enterprises compete and create socio-economic advancement and prosperity. Consequently, the advancement of a country’s wealth depends on political and macroeconomic reforms along with microeconomic improvements.

Consider countries in a two-dimensional field with one axis representing population density and the other axis representing gross national income (GNI) per capita, as illustrated in Exhibit A on page 32. Developed countries are at the highest income per capita bracket, and underdeveloped countries are at the lowest income per capita bracket, with developing countries in the middle. The block areas in the diagram approximate the actual distribution of countries with respect to wealth and population. Although not shown in the diagram, there are disparities with respect to wealth and population density within individual countries as well.

The general trend of globalization suggests that many products and industries go through a cycle during which developed countries (i.e., high income, mass consumption) are initially exporters, then lose their export markets, AN INCREASING MARKET FORCE

Never before in history has there been such rapid change in people’s lives. Because of the lowering of trade and investment barriers and the rise of telecommunication and transportation technologies, companies can set up or outsource manufacturing, research and development, service delivery, or other business activities practically wherever costs and wages are the lowest and capabilities and resources are aligned with business strategy.

The waves of globalization fueled by continually more sophisticated and efficient means of communication, finance, trade, and transportation have brought the world closer together. Correspondingly, globalization has re-landscaped the supply and demand of products and services in globally competitive markets. Indeed, accompanying new global sources of customer demand and product supply are new competitive threats and choice of resources.

The message here is to think about and leverage globalization. Technical professionals should keep abreast of industrial trends in domestic and international markets in terms of hot spots, where regions experience above-average economic activity, and soft markets, where supply of certain skills or resources exceeds demand.

It is also about mastering the principles behind business strategy, process, and people.
ECONOMIC IMPACTS ON PROFESSIONALS

What are the impacts of globalization to technical professionals? As discussed, globalization is creating unprecedented uncertainties in the outlook for any career amidst increasing corporate access to a global labor market and the commoditization of intellectual property. The knowledge-based global economy puts pressure on businesses to pay for knowledge wherever it is available. Farming out R&D, licensing technology, transferring knowledge, and acquiring product lines are common strategies for many businesses that can no longer depend on their own resources to stay competitive. For example, businesses in many developed countries, including the U.S., are shipping skilled jobs to less developed countries to reduce costs in a trend known as off-shoring. The dichotomy between pro-business and pro-labor government economic policies has a patchwork effect on the quality of jobs in specific industries. Technical professionals with once-valuable knowledge and experience are left with limited choices.

Furthermore, other financial factors have affected the technology business environment and, by extension, the careers of technical professionals. The Asia-Pacific monetary crisis in the mid-1990s, caused by irregularities in financial practices, led to many bankruptcies and withdrawals of foreign investment. The burst of two technology bubbles—telecommunication and Internet dot-coms—in the late 1990s, because of irreconcilable costs versus returns, disipated tremendous amounts of wealth. The corporate accounting and corporate governance scandals of the early 2000s have also adversely affected investor confidence.

These trends demonstrate how complex and unforgiving the business environment can be. People might argue that the competitive knowledge economy and globalization provide the base for lasting economic value to consumers and raise the living standards in developing countries. They may also argue that monetary crises, technology bubbles, and corporate scandals are only temporary and the economy will recover from these valleys to reach new, higher peaks. Perhaps, but the fact remains that the aforementioned trends and events do create sudden imbalances between human capital supply and demand, function by function, industry by industry, and region by region.

PROFESSIONALS MUST BUILD BUSINESS ACUMEN

The commoditization of knowledge, the lure of lower labor costs elsewhere, and the miscalculations of the technology bubbles are real threats to technical professionals and the labor force in general. In addition, the life cycle for technical skills is getting shorter and shorter; any specialization in technical knowledge will not last a career span. In times of bankruptcy, downsizing, mergers, outsourcing, and off-shoring, businesses frequently offer outplacement assistance, but rarely career re-training. Where is career security to be found?

Another key trend as a result of globalization is the supply and demand of the global workforce. The highly computerized modern technical industry is a good example of the various outcomes of globalization, shown in Exhibit B from the different perspectives of business, economists, and professionals.

and finally become importers of the product.

Several prevailing rules about the directions of gaining global advantage are summarized below:

- Companies should develop networks of intellectual properties, capital, people, and market insights across regions for business agility and efficiency.
- Companies should gain control of foreign distribution channels to access foreign customers directly.
- Firms in developed and developing countries gain advantage by selling unique products and services to less-developed economies and less-populous regions.
- Firms in underdeveloped and developing countries gain advantage by:
  - Selling products to developed economies produced with low-cost labor or low-cost natural resources, low pricing, or market niche products;
  - Improving operational efficiency and effectiveness and widening capabilities in other activities, such as marketing, logistics, and service;
  - Leveraging regional infrastructure (including neighboring countries) and resources to develop geographic value chains and specialization; and
  - Building unique brand identities.
- Firms competing within developed countries gain advantage by:
  - Selling through enhanced product differentiation, refined segmentation, distinctive branding, efficient knowledge management, or extended distribution channels; and
  - Investing to build true innovation capacity and upgrade the knowledge and skills of the workforce.


Exhibit A: Wealth distribution versus population density for different countries.

[Table: GROSS NATIONAL INCOME (per capita (US$)) vs. POPULATION DENSITY (per sq. km.) for various countries, including Canada, the U.S., France, U.K., Japan, S.Korea, Mexico, Brazil, Russia, Poland, China, Indonesia, India, Nicaragua, and Korea.]

Data source: UNICEF 2002

[Diagram: Geographic value chains and specialization.]

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Globalization Trends

**BUSINESS PERSPECTIVE**

- Shrinking profit margin
- Need to reduce labor costs
- Outsourcing
- Leveraged workforce of global regions where workforce is qualified and available, wages and costs are low, and market conditions are favorable
- Improved business competitiveness
- Participation in emerging markets like China, India, and Latin America
- Opening of global offices, multinational status

**ECONOMIC PERSPECTIVE**

- Leveraged global workforce
- Lower product costs
- Increased product demand
- Increased product supply
- Increased labor demand
- Increased labor supply
- Higher incomes
- Improved regional economy

**PROFESSIONAL PERSPECTIVE**

- Leveraged global workforce
- Displaced home workforce
  - Lost jobs
  - 1) Migration to emerging markets
  - 2) Need for new career or venture
  - 3) Competition in shrinking job market

Exhibit B: Different outcomes of globalization.

Businesses have also become far too complex for unidimensional information analysis, resource allocation, and management decisions. To compete, businesses need to facilitate multiple interactions among functions, professional disciplines, customers, and suppliers. Such an environment requires not just inter-organizational leadership and teamwork, but cross-functional, intercultural, multi-site, multi-level, and multi-disciplinary leadership and teamwork. However, many technical professionals are ill-equipped for playing key business roles.

The fact of life is that it is up to individuals to cross-breed themselves through education and professional development. An improved understanding of business practices and management decisions will yield more career choices and options to enhance your livelihood. Yes, professional isolation can be a consequence of corporate culture, interdisciplinary communications may not be the best, investment can be a gamble, knowledge can become obsolete, employees can be replaced, businesses can be folded, and intellectual property can be duplicated. But the purpose here is not to instill fear. It is to encourage acquisition of new knowledge and understanding of business principles to expand your career prospects. Technical professionalism is not just about having technical competencies, but also about mastering the principles behind business strategy, process, and people.

**CONCLUSION**

The acceleration of globalization has produced unprecedented opportunities, threats, and uncertainties for technical professionals and for business in general. The effect of globalization certainly feels like the ground is shaking as the traditional strengths of many businesses and careers are moving out of place. It can be very disconcerting when knowledge, productivity, and money are no longer sure competitive advantages. Don’t be discouraged. For technical professionals to become effective in their contributions to and participation in business, constant self-development, interdisciplinary knowledge, and cross-functional and intercultural teamwork are the essential qualifiers. It just takes a while to find value first and realign oneself and/or one’s business into a new value profit chain! Ultimately, national prosperity will be determined by a country’s business enterprises, its citizens (including its workforce), and the governmental policies and institutions that organize and manage the economy.


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Mr. Pan received a bachelor’s degree in applied physics from the California Institute of Technology and a master’s degree in electrical engineering and computer science from the Massachusetts Institute of Technology. He began his career in research and development at IBM, Caltech, and Hughes Electronics. He held senior operations and product management positions at Network Device, Inc., Spectrian Corporation, and Samsung Semiconductor, Inc., and was a director of operations at Skyworks Solutions, Inc. He has authored 20 technical papers and holds several U.S. patents.