

# **The Impact of Information Technology On Business Education in Emerging Markets**

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Paper presented on the Occasion of the Business Education Systems and Emerging Markets Conference at the Georgia Institute of Technology, November 6, 2004

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Having witnessed the extraordinary development of information technology during the past 20 years qualifies us as dinosaurs, yet it also helps us to identify some systemic changes it triggered in business education, and to predict further trends that will profoundly affect business education in emerging economies.

As for dinosaur memories, I would recall these extraordinary years when Information Technology companies found themselves at the forefront of the opening of emerging markets, which were then closed economies: in 1980, IDG and its founder Patrick J. McGovern started the first US-Sino joint venture with the creation of China Computerworld, a venture I was privileged to serve as a director in Beijing from 1985 till 1991. Similarly, we entered the Hungarian market in 1985 and the then USSR in 1987, creating the first Western-owned publishing ventures beyond the iron curtain. Meanwhile, our fellow pioneering colleagues in the lobby of the National Hotel in Moscow or the Forum in Budapest were executives from companies such as Intel, IBM or Microsoft. Around the world, governments from Moscow to Delhi and Beijing were realizing the urgency to adopt information technology if they did not want to be left behind. This in turn led these governments to support the entry of major IT companies on their markets, and to allow local software entrepreneurs to operate private ventures. Major reforms on international investments, copyrights law, international trade and commercial law followed in the 80's in this context.

Years later, these pioneering years have been forgotten, yet another interesting legacy of information technology is the profound influence it had on the rapid adoption by emerging economies of contemporary business processes. With foreign direct investment and privatization accelerating, basic applications became a given in most organizations from an accounting, communications, operational and marketing stand point. In fact, PC-based personal productivity tools, enterprise software applications and electronic communications did more to spread best business practices than any other factor. This positively impacted emerging economies businesses, from the affiliates of multinational companies to small businesses discovering the benefits of productivity tools. Today, the job market in emerging economies emphasizes computer skills and the knowledge of common applications as much as it does in developed, mature economies.

The IT sector in itself also quickly became a major driver in emerging economies: such was the case for the "Four Asian Tigers", and later, India, Brazil and China. India's success story is well known: today, it exports \$6 billion a year in software and related services. Success in technology allows India to expand into more and more mainstream business process outsourcing. In 2001, IDC ranked Asia as #2 behind North America in terms of number of IT developers. In 2006, IDC predicts that Asia will take the lead in absolute numbers. In China, trends are similar: there are 400,000 people employed in the software industry, of which 250,000 are software engineers. And current education plans call for the training of several tens of thousands every year. Which brings our attention back to the United States where similar trends are still driving the changes of its labor force. Current U.S. Department of Labor statistics rank seven computer-related

occupations as the seven fast growing in the country. So it is only fair to say that the influence of Information Technology on emerging economies is just starting.

One additional impact of technology in the field of business is the profound influence it has on the process of education itself. Everyone in developed economies has been exposed to its multiple forms from asynchronous tools such as on-line tutoring via email to self-taught interactive CD-Rom based courses and synchronous on-line live courses via the Internet or satellite links. And it is an easily foregone conclusion that such technologies may not yet be appropriate for emerging markets. To those of my colleagues who are educators, I would however mention the fact that China in 2002 had 67 State Universities in 31 provinces offering accredited 3-year on-line courses to over 800,000 students. And it seems that spending on the sole academic segment of e-learning in China may be growing 74% per year, reaching \$876 million in 2005. Factors supporting this extraordinarily rapid growth of e-learning in China are very similar to those in mature economies<sup>1</sup>. 87% of e-learning students have a full time job while 90% are between 21 and 35 years old. When asked why they chose e-learning degrees, 89% mention flexibility of time, 70% flexibility of place and 62% the accreditation of the degree studied. And for those of our colleagues familiar with China, it is worth noting that the vast majority of these users are in fact not located in Beijing or Shanghai, but in provincial cities.

With the number of Internet users in China growing towards 60,000,000 in 2003, one can easily predict further gains across the entire spectrum of e-learning, which is why several Western companies such as California-based SmartForce wish to take advantage of China's recent reforms by establishing operations in China.

Back to the dinosaur perspective, it seems clear that one cannot look at business education in emerging economies without factoring in the profound impact of information technology on their business environment, and the expectation, by local students or academic partners, that technology be a core part of the education contents and processes.

Based on past and present observations through many activities in emerging economies as a businessperson, I will offer three predictions regarding business education in emerging economies.

***Prediction #1 The ubiquity of best contents, processes and academic tools made available through technology and the Internet will help emerging economies to build academic resources faster, cheaper and better.***

It will be harder over time for Western academic institutions to demonstrate their added value other than brand and accreditation. Curriculum, best practices, methodologies are available instantaneously across the world. And many emerging economies governments

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<sup>1</sup> Based on results of surveys conducted by the China Computer Information Industry Development Institute and the Singapore IT Federation e-learning chapter with the Infocomm Development Authority of Singapore

are putting a strong emphasis on domestic higher education. From Dubai to Singapore, the level of excellence of technical and business education has been a top priority for a number of years. And China's current reforms and investments are particularly telling. It invests heavily in education information infrastructure: CERNET, an optical backbone linking 750 education and research institutions in China with 4 million users is perhaps the most ambitious project of this kind in emerging economies. It is based on the belief among Chinese government leaders that processes should be digitized as much as feasible to maximize knowledge sharing among academia. In parallel, China is opening up its doors to joint ventures in the academic field. Shanghai has been at the forefront of this policy with a number of vocational schools started with overseas partners. Long term, the goal of the Chinese authorities is clear: to retain its most skilled people by offering strong academic opportunities domestically. Past experience shows that out of 580,000 Chinese students that went abroad since 1979, 160,000 returned while 420,000 stayed to either work or study abroad. China now provides new incentives for expatriates to return from tax breaks to special intellectual property protection. Long term, this policy is bound to succeed and China will likely boost its higher academic sector to make it the largest in the world. So, for anyone in the business of business education, not being in China is a matter of strategic consideration: China's market will be a major factor in building economies of scale and it will also remain a highly competitive place from an academic labor cost and productivity standpoint.

***Prediction #2 Reverse flows of expertise and resources from emerging economies and a globalization of accreditations will affect the business education market as has already happened with IT training.***

From a business education standpoint, emerging economies represent a vast potential for effectively priced local business education courses and expertise. In these countries, it is likely that the business education market will continue to shift towards a mass market with objective standards, as opposed to an "elite" market. A likely consequence of the growth of business education services among emerging economies is their potential ability long term to export and compete successfully with their own services across the world. This may sound unrealistic or even ludicrous to Western educators used to look at emerging economies with a different perspective.

The Information Technology Training sector, however, is an interesting indicator: among the largest and most successful IT Training firms are at least two Indian corporations, NIIT and Aptech. Both have established schools in more than 50 emerging economies and developing nations, and, in Europe and the United States, they both export advanced e-learning design services.

Furthermore, as one looks at the value chain of mainstream curriculum development for business education via e-learning, a significant portion of it is already transferred to emerging economies developers. And as e-learning becomes more integrated with the mainstream "brick and mortar" delivery of business education on campus, one can expect

products developed by emerging economies firms to play an increasingly important and pervasive role in the everyday life of business education around the world.

Obviously, education institutions from developed economies operate from high grounds: the expertise, wealth and communities built around major business schools in the United States and to a lesser extent in Europe are extraordinary, and their brand awareness span the globe for post-graduate studies. Accreditation thus becomes an important aspect of who can sell what type of services and with which partner and criteria. This whole question is obviously up for discussion as the rush towards partnering with emerging economies education institutions is just starting.

However, yet again, the IT industry has contributed to create new dynamics. Today, most IT developers or IT personnel defines their competencies first and foremost based upon professional certifications defined globally by IT firms leading their field: Microsoft, SAP, Cisco, Novell, and others. In fact, a Cisco certified engineer would be hired first because of his or her certification and secondarily because of another education background. And as those certifications encompass more and more business processes, and employers rely on worldwide certification criteria to hire their personnel, it is likely that global business education norms will emerge as well. If and when this happens, business education institutions will be subject to the very same competitive pressures that IT educators have met. Curriculum is normalized, assessment and exams are normalized, professors certifications and credentials are normalized, and the next thing you realize is that your own college brand does not make much difference anymore: does it make a difference whether you got your Cisco certification in Brazil, Singapore or the United States?

***Prediction #3 The Internet will continue to grow and will open unprecedented opportunities for business education geared towards impoverished areas in emerging economies***

As much as one would hope to be able to grasp the full consequences of the growth of the Internet, it is a near impossible task. However, one aspect is certain: the Internet will grow by a huge order of magnitude over the next ten years. And in emerging economies where a substantial part of the population still lives in rural areas with very low standard of living such as China and India, the common wisdom was so far that the “Digital Divide” would worsen due to the insurmountable cost of wired infrastructure.

New Wireless Internet technologies, however, carry the promise of spreading broadband connectivity to underserved areas across the globe at a very low cost. An informal cooperation between companies and institutions such as Intel, IBM, Microsoft, Cisco, the United Nations and the World Bank makes it possible to help organizations such as the Wireless Internet Institute and the International Telecommunications Union to foster new standards and practices for regulators in emerging economies. What field study of

pioneering experiments shows <sup>2</sup>, notably in India, is that wireless Internet technologies work, are useful to the poor, and support practical applications for health, education, public administration, small business and agriculture in underserved rural areas.

There were more new users of the Internet in China in 2002 than in the United States. And with wireless Internet being tested in China in 2003, we may just be at the very beginning of a massive change of the demographics of the Internet worldwide. At a recent meeting of the United Nations World Summit on Information Society in Geneva, participants from public and private sectors were discussing goals to expand connectivity to impoverished underserved rural areas. Some of the proposed goals were as follows:

- All villages to be connected by 2010, with a community access point by 2015.
- 90 per cent of the world's population to be within wireless coverage by 2010 and 100 per cent by 2015.
- All universities to be connected by 2005, all secondary schools by 2010 and all primary schools by 2015.<sup>3</sup>

These may seem far-fetched but coinciding interests of leading IT vendors and of the international Development Community are poised to create a strong momentum for wireless technologies the world over.

Long term, the implications for business education are considerable: as impoverished areas get connected and are trying to improve their economic and social condition, there may well be a whole new opportunity on a unprecedented scale to support a multitude of basic business vocational education and training needs using new technology.

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<sup>2</sup> “The Wireless Opportunity for Developing Countries”, edited by the Wireless Internet Institute and co-published with the *infoDev* Program of The World Bank and the United Nations ICT Task Force. Copyright World Times, Inc. 2003 ISBN 0-9747607

<sup>3</sup> Text proposed during the WSIS bureau meeting of 22 August 2003.