

Cybereconomy: Information Technology, Economy And Banking Sector

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ABSTRACT

It would be an understatement to say that the Information Technology (IT) is having an enormous influence on today's global economy. It would be more appropriate to say that IT is now close to becoming the most important driver of the global economy. The competitiveness of a country's economy and well being is getting closely aligned to its ability to innovate and participate in the IT industry. While the industrial revolution was initiated in the labor-intensive manufacturing industry by automotive pioneers like Ford, it is clear that the third revolution is driven by the knowledge-based services sector. In the last decade we have begun to see a new revolution- the information revolution. This paper focused on Importance of IT, Business Transformation, Impact of IT on economy and various sectors .

Keywords – Business Transformation, Economy, Global economy, Information Technology, Industrial Revolution, etc.

Introduction

It would be an understatement to say that the Information Technology (IT) is having an enormous influence on today's global economy. It would be more appropriate to say that IT is now close to becoming the most important driver of the global economy. The competitiveness of a country's economy and well being is getting closely aligned to its ability to innovate and participate in the IT industry. While the industrial revolution was initiated in the labor-intensive manufacturing industry by automotive pioneers like Ford, it is clear that the third revolution is driven by the knowledge-based services sector. In the last decade we have begun to see a new revolution- the information revolution. Today, and in the future, it is "brain" and not "brawn" that is the key to sustainable economic growth. Consequently, the level of development of the services sector, particularly the knowledge-intensive segments, has become a key determinant of national competitiveness for economies around the world. The use of money enabled the goods made by unknown people in remote places to be bought by others. Money enabled trade to cross immediate geographical boundaries and replaced barter. The information revolution is now

enabling the emergence of a new type of barter system on electronic network. People can exchange goods without having to exchange money. This has led to the emergence of virtual markets. Electronic business with replace going to shops. Same is the case with electronic banking system. The impact of IT on economy has accelerated with the development of satellite communication, increasingly powerful and smaller memory chips and developments in software programming. This has had a fundamental effect impact on organizational structures and human resource management. Intermediate middle management levels have been thinned down and intellectual capital has become a key resource. The article deals with the IT and its impact on economy in general with special examples of Indian economy. The first section throws light on why IT is useful to us, followed by Business transformation needed to compete with the electronic world. The next two sections illustrate the impact of economy on IT and vice versa with India as reference. Lastly we have the problems regarding implementation of web-enabled business.

Why information technology is important for us:

Participating in global trade and production

1. Rising information content in economic activity worldwide
2. Fast pace of economic transactions and premium for rapid response
3. Intelligent infrastructure necessary to attract foreign investment and alliances
4. Exporting fast growing, highly profitable software and information based services

Alleviating information poverty

1. Accessing the fast expanding global knowledge.
2. Mobilizing and sharing local information resources.
3. Enhancing productivity of scarce managerial and scientific resources.
4. Empowering private sector with public information.

Enhancing competitiveness

1. Transforming industries from mass production to lean and flexible manufacturing
2. Opportunities to leapfrog (Telecom) and to phase in IT at low cost (PCs, set-top boxes and Internet).

Introducing managerial techniques and redesigning business processes

1. Improving Public Sector Management.
2. Extending basic services to vast population.

3. Improving public policy and promoting transparency.
4. Promoting national consensus, broad participation and social learning.

Education & Healthcare

1. Increasing literacy level.
2. Using Education as a major tool for improving quality of life, employment.
3. Increasing healthcare for citizens including that for remote areas.

Government & Citizens

1. Schemes like ‘Right of Information’ for citizens to improve transparency.
2. Electronic Governance for more efficient Government.

Time to change: business transformation (bt)

Business transformation has fast become a buzzword for business in India over last couple of years, and impact of the opening up of economy and globalization is being felt by Indian business. The Business Transformation Model explains the concept of BT.

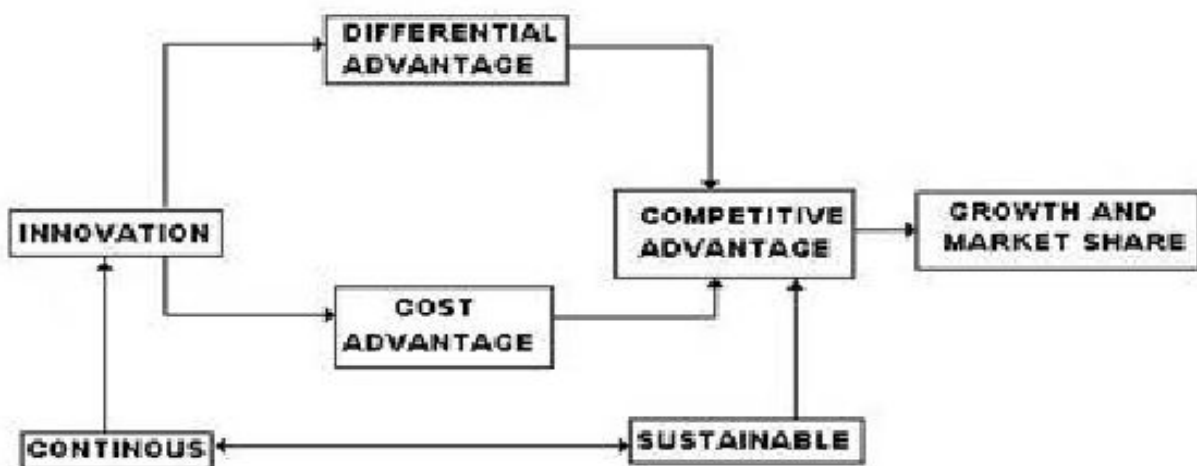


Figure 1: Business Transformation Model

Source: <http://www.scribd.com/doc/6988065/Cyber-Economy-Information-Technology-and-Economy>

For sustainable growth, the main driver is innovation in product, service and delivery; these are the key factors that influence a customer’s preference, resulting in growth and gain in market share.

According to Peter Drucker in *Management Tasks* “There is only one valid definition of business purpose: to create customer. Because its purpose is to create customer, the business enterprise

has two basic functions: Marketing and Innovation. Marketing and innovation produce results, all rest are costs” .

There is a need of continuous innovation as competitive advantage is temporary. Since 1991 Indian business have been exposed to fierce competition, particularly from Multinational companies (MNC). The sudden exposure to competition – with a big gap in performance between Indian business and MNC- has created a need for drastic measures to be taken by Indian business. This is Business Process Reengineering (BPR), from which the concept of BT is evolving. BT involves redesigning of Products, Processes and Structures. A few examples will be online book library, e-banking, ATM, online shopping, imprints etc.

Without infotech these ideas and design could not have been possible, even for visualization. Thus, the challenge before a business today is to innovate customer centric products, services and delivery processes leveraging infotech to the hilt. They will have to transform themselves from infotech users to an infotech-enabled organization, and eventually to an infotech dependant organization, to be able to create a unique position for them.

Customer preference achievement through infotech

The transformations in the following fields are possible through infotech:

Product to transform its features and quality using CAD/CAM methods

Processes Infotech enabled processes, which offer service and delivery of product very differently by

1. Instantaneous response
2. Convenience of getting information, service and delivery of products
3. Personalized attention

Organization structure which is customer oriented and conducive to innovation

Impact of information technology on economy

Industrialized and developing countries alike are formulating policies and programs to accelerate IT development and diffusion. Information technology is increasingly regarded as a "key" technology. It is seen as generic, strategic, critical, core, enabling as well as pervasive. All OECD and other developed countries have since recognized the importance of IT and use a variety of policies and joint public-private programs to increase IT proliferation. In developing countries also it has been established that information technology has the potential to enhance

competitiveness of key industries, modernize basic infrastructure and services, alleviate information poverty and reduce transaction costs throughout the economy.

Most industrialized countries and an increasing number of newly industrialized countries use new information technology in key areas like macro-economic planning and decision making, public administration, education, health-care, manufacturing, finance and banking, transportation, commerce, publishing, energy conservation and environmental management. Some economic historians assert that the impact of information technology on society tantamount to a "second industrial revolution" - as momentous or even more in its implications compared to the first.

Previously in the Weapon Age, the major countries with weapons were the rulers, then the economy with dollar mark the chart, as Dollar Age. Today, it is Information Age. The most stable economy is the economy with information power.

India

In the last few years, following the success of the Indian software industry in the global arena, many economists and forecasters in India have started analyzing and formulating policies to find out how India's power in software and/or the proliferation of IT in India, can aid in developing a powerful economy.

Just as the Gulf has its natural resources in crude oil and South Africa in diamonds, India's natural resource lies in its abundant technically skilled manpower and this natural resource easily transforms India into a software superpower. It is no wonder today that when people talk of software development, they talk of India or more precisely the Indian software industry.

Indian IT software companies have the unique distinction of providing efficient software solutions with cost and quality advantage, using state-of-the-art technologies, having the capacity to handle large projects and, above all, the ability to execute timely deliveries. In the meanwhile, plethora of IT enabled services like Call Centres, Medical Transcription, Back-Office Operations, Revenue Accounting have started increasing. At the same time, the dotcom revolution has brought about a sea change in valuations, from escalating rise to sudden burst. The stock market in India is booming due to the infotech stocks.

The passing of Information Technology Act, 2000 in both Houses of Parliament is the first and most significant step taken by the Government of India towards bringing about an e-commerce revolution in the country. It has become an important milestone in our legislative history by

providing legal recognition for electronic records and penalizing those who indulge in cyber crimes. A major portion of the Act deals with the most important aspect of e-commerce, viz. the administration system, also known as PKI.

Indo-us collaborations

Mr. Yashwant Sinha, Indian Finance Minister recently expressed the Indian government's new attitude toward the migration of some of its most skilled workers to the United States, especially to Silicon Valley. Once viewed as a brain drain that limited India's own economic prospects, the recent increase in H-1 visas is welcome. The U.S. government issues H-1 visas to U.S. employers, who can then use them to employ highly skilled workers from other countries, such as India's touted software engineers and programmers.

While the technological capability of the United States is undisputed, India has emerged as a front-runner in information technology. Young Indian entrepreneurs, be it in the Silicon Valley or elsewhere, are at the forefront of the high-tech revolution and provide a "continuous pipeline" back and forth between the two economies.

Effect on various sectors

Advertising

The customized products are designed as per the demand of the customer. Each customer can ask for and get a variant of the product to suit his needs and tastes, produced by large-scale factories with new type of machines and technologies. Advertising will be influenced by this change. It will take directly to individual customers and not to large mass of target customers sharing common characteristics. As for example McGrawHill has started an online bookstore where you can order the chapters of your demand. The online calculation is followed by delivery of the book.

Financial Markets

The information technology has tremendous implications for the financial markets. Market participants are trying to figure out their way through the maze of alternatives to ensure their way through the maze of alternatives to ensure their survival. As for example, Merrill-Lynch, US, one of the largest broking houses in the world, with more than 10,000 brokers advising clients and dealing on their behalf.

The trade rate for retail clients is about one percent. But in the last few days, many web based broking houses have come up in the US that does not have brokers talking to the clients. Instead

they allow the clients to see quotes, place orders and manage their own portfolios using web-based interfaces over the Internet. The brokerage rates charged by Internet brokers are almost 70 percent to 90 percent lower.

Impact of economy on information technology

The good news for the IT industry in Budget 2000-2001 has come in the form of a number of import sops on hardware, both in the computers as well as the cellular telephony segments. These include reduction in customs duty for computer motherboards from 20 to 15 per cent; floppy diskettes, from 20 to 15 per cent; specified capital goods for manufacture of semiconductors and integrated circuits from 15 to five per cent; microprocessor for computers from five per cent to zero; CD-ROMs from five per cent to zero; integrated circuits and micro-assemblies from five per cent to zero; and data graphic display tubes for color monitors for computers from five per cent to zero.

The extension of special additional duty, or SAD, on traded goods offsets the reduction in duties, and there is not much change expected in these prices. However, it is expected that the budget will provide an advantage to those assembling and manufacturing systems within the country. The reduction of duties on processors, memories, CD ROM and some other components to zero will facilitate the setting up of vendor hubs within the country, and this will provide flexibility, reduced time-to-market as well as inventory reduction.

The basic customs duty on specified raw material for manufacturing optical fibres has been reduced from 15 to five per cent.

Economic forces that shape information technology

The reason to study the economic forces that shape the design and evolution of information technology system products are:

1. To better understand the spectacular growth and productivity performance of the personal computer industry.
2. To build a sounder analytic basis for the treatment of product design issues under antitrust law.
3. To implement design flexibility in software development. Software code can be expanded, modified and combined to add functionality, bundle features and redraw the boundaries between product categories.

4. To ensure customer satisfaction. Competition in many software products is exhibited through innovation rather than price. Thus the consumer benefits from the competition largely take the form of product improvements, new product introductions and, occasionally, the creation of whole new product categories.
5. Finally, the PC operating system is the prime example of a product that derives most of its value from its capacity to function as a platform other products.

Example

On Microprocessors: When IBM introduced the first PC in 1981, its Intel processor contained 29,000 transistors; Pentium III processors, now standard on low end PCs, contains 9.5 million transistors. The price from mid-range Intel processors fell from \$12.12 per MIPS in 1993 to \$ 0.09 per MIPS in 2001

Same is the case with random access memory (RAM), the memory on a chip that can be accessed in billionths of a second. The price per megabyte of RAM fell from \$880 in January 1984 to surprisingly 38 cents in June 2001- an average rate of decline of 44 percent annually.

Much the same has happened with “hard drive” storage, “floppy disk drives”, CD-ROM, DVD-ROM and printers. The incredible pace of technological change and cost reduction on the hardware side of PC systems has driven many of the developments on the software side.

In short we can say that three important forces propel the evolution of the PC and lead to the continual integration of new features:

- (a) The need to keep pace with new products and advances in computer technologies.
- (b) The need to simplify PC use, including the desire to incorporate features that have become part of the basic functionality of PC systems.
- (c) The desire to stimulate the development of new and improved software applications that compliment the OS and enhance its value as a platform

Problems faced by the Cyber Economy

The advent of e-commerce has complicated the situation for the accountancy profession. This is partly due to the fact that there is a remarkable diversity in practice, the situation is not adequately addressed in accounting literature, and certain developing practices may be inappropriate under generally accepted principles of accounting.

A large number of people are still wary of transacting business on the Net because they are not sure of the legal ramifications of doing so. Moreover, they are in the dark on issues such as how

these transactions will be affected by the direct taxes. The business on Net is not bound by physical boundaries, as it is said, "Geography is now History". Moreover, it has blurred the distinction between different types of income recognition- royalties as against sales income.

The problems to calculate net taxable income, network security, hacking, data theft, espionage, blackmail, extortion, frauds, cyber stalking, virus, data loss, web page hijack, smearing, denial of service etc, using information technology have made economy somewhat estranged.

Conclusion

Recognizing the enormous potential of IT, every state must decide to embark upon an ambitious vision and journey to herald the benefits of this technology to the people of its State. Accordingly, the State Government should take measures to create an IT friendly environment for integrated participation by all in the development process of the new digital economy.

This journey into the information age will be for improvement in the quality of every aspect of human life, emergence of a competitive society and a vibrant economy of new age technologies through transparent governing systems, sound infrastructure and skilled human resources.

Abbreviations

ATM: Automated Teller Machine

BPR: Business Process Engineering

BT: Business Transformation

CAD: Computer Aided Design

CAM: Computer Aided Manufacturing

IT: Information Technology

MNC: Multinational Company

References

Hackathorn, R., Business Intelligence & Globalization, *IBM Journal*, Sept 2006.

Luhn H. P., (1958), Business Intelligence System, *IBM Journal*, 2 (4), 314-319.

<http://www.scribd.com/doc/6988065/Cyber-Economy-Information-Technology-and-Economy>,
Accessed on 11th Aug 2013.

http://en.wikipedia.org/wiki/Business_intelligence, Accessed on 12th Aug 2013.

<http://www.b-eye-network.co.uk/view-articles/3319>, Accessed on 13th Aug 2013.

<http://www.b-eye-network.co.uk/view-articles/3489>, Accessed on 13th Aug 2013.

<http://www.mof.gov.bt/publication/files/pub7hb1275eo.pdf>, Accessed on 12th Aug 2013.