The Business and Information Technologies (BIT) Project

A Global Study of Business Practice

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editors

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FOREWORD

Notwithstanding reports to the contrary, the size of the information economy in the United States has been steadily increasing from about 46% of the GNP in 1967 to about 56% of the GNP in 1992 and to 63% of the GNP in 1997 (Apte and Nath, 2004). In short, it has become a major part of the economy already, and will continue to dominate it for the foreseeable future making US truly an information economy.

The Internet phenomenon was primarily a matter of a fundamental change in information logistics, with the protocols of the web superimposed on a deregulating and increasingly competitive telecommunications environment. This story continues to play itself out.

However, there are new technologies and systems on the horizon, and it is most likely that a second slower wave of change based on infrastructure development, and then probably a third wave based on information processing, intelligent agents, and natural interfaces (as distinct from just the shipping and handling of information) will be observed. It is expected that all these technological and infrastructure developments will change the structure of firms in terms of organization and work process, will change information chains and inter-organizational relationships, and will alter the structure of industrial sectors, to the point that the traditional categories do not apply very well.

However, it is not clear how and when this will happen, or what will take its place. It is also not clear how lines of authority, responsibility and communication will be established in the new firm. One very basic change is occurring in the nature of the workplace. Most of the workers now face a screen for some significant period of time during work hours. The screen is a very different workplace from a desktop, since it is much better connected with places, people and processes outside the workplace. The screen (or interface) is also easily liberated physically from the desk and cubicle. It is apparent that the traditional notion of contemporaneous co-location as the core of an organization is ready to disappear.

Perhaps, the concepts of span of control and hierarchy will disappear in favor of some form of “just-in-time” and “only-on-demand” management.

The dot.com boom might have come and gone, but it has permanently changed the face of B2C relationships well beyond just the new phraseology. There is no question

that sectors such as retailing, travel services, and financial services have been transformed, not just in terms of new entrants, but for the incumbents as well. For many consumer goods and services, the web is now a growing carrier of brand equity and customer recognition; it has become a new face for a company. The changes in the B2C layer are beginning to ripple back into supply and service chains. The impact on logistics, freight and delivery services is most easily seen, but many other equally dramatic changes are occurring inside and between firms, that are invisible to the casual observer.

The reduction in the costs of information logistics suggests obvious changes in business practice. As transaction costs drop, as large volumes of information can be reliably and quickly transported, there will be changes in the structure of business processes that exploit these advantages. Some of the consequences for B2B interactions have already been observed, although hype and overestimation have tended to distract from the very significant reality.

Perhaps, the most important issue today is the overall impact of these technologies on the structure of industry sectors and the economy as a whole. Many sectors are coalescing and converging. For example, newspapers, magazines, and broadcast organizations are all colliding on the web. Those sectors will fragment and reform into new alignments, which exploit their core strengths. The position that newspapers have held because of the economics of delivering information bundles to the door, is seriously threatened by online channels. For example, newspapers are not now or in the future, the strongest suppliers of “breaking” news, especially in multimedia formats. The television networks have the best collection and packaging systems for that task. Newspapers may hold on to criticism, commentary and review, though magazines could easily start to compete for that role. In turn, TV broadcasts will face challenges from web casts. Magazines will have to contend with web-based competitors, and go on the web themselves. Of course, these changes will not occur overnight. For a time, most media and publishing companies will have to think in terms of both sheets and screens.

There are very similar stories that can be told about other sectors, as well as about international trade. The point is that these changes are huge, and deserve to be followed closely. It is relatively easy to make broad brush comments about the changes that are underway, as we have above. However, hard information about the extent and distribution of these effects is lacking.

This book aims to capture the impacts of new information technologies on business and industry structure in various nations across the world. The potential for learning across these groups is vast. The nature of best practices in different countries varies widely. It is expected that several interesting local variations in business practices will be found, in addition to various impacts of technologies on business.

OVERVIEW

The BIT study documents the information technology driven changes that are occurring in business structure, business practice and sector structures across a wide spectrum of industry sectors in the United States and the rest of the world. The first step in the process was to do a base line study that established the state of this universe. Subsequently, the study is being repeated at appropriate time intervals to track the changes that are actually occurring, so as to provide hard information on what is really happening across the economic landscape as a result of changes in information technologies. The study will be across all sectors.

The BIT project is being conducted at a global scale. At the time of writing, the project has 12 partners in leading academic and research institutions around the world. The partners include USA, Argentina, Chile, Greece, India, Italy, Korea, New Zealand, Peru, Spain, Sweden, and Taiwan. The details of the BIT partners are in Appendix C.

Five of these teams (Italy, India, Korea, Spain, and USA) have conducted surveys during 2004–2005. It is expected that the BIT survey will eventually be conducted in perhaps 15–20 countries by research teams from those countries. This global perspective combined with the longitudinal view will provide a unique and comparative picture of technology and business practice across the world.

The potential for learning across these groups is vast. The nature of best practices in different countries varies widely. It is also not the case that the most developed countries are always the most advanced in technology use and penetration. For example, many countries are far ahead of the US in the degree of conversion to electronic banking and monetary systems. As an example, certain European countries have already closed their check processing facilities, since checks have almost passed out of use. India surpasses many countries in the extent of software project involvement and exports, despite a miniscule level of penetration of PC use or for that matter, phone usage. In many eastern countries, the use of wireless communications is rapidly outstripping traditional wireline systems. It is expected that several interesting local variations in business practices will be found.

This book brings together findings for the BIT survey for five of the countries partnering in the project. These are in Part I of the book. Part II of the book contains papers which either compare the BIT survey data from multiple countries or discuss findings from studies that look at specific sectors such as entertainment media and retail.

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