

Sample Book

Managing Global Information Technology: Strategies and Challenges

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Managing Global Information Technology: Strategies and Challenges

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PREFACE

This is the fourth book we are publishing on the management issues of global information technology. Every time we have edited the book, we felt that the issues will not change dramatically in just a few years and each book will last for a long time. Not so. We have been inundated by calls from our friends and colleagues pleading with us to completely renew the book. Besides the obvious and growing utilization of information technology by firms of all sizes in all parts of the globe, significant changes have occurred in the past few years. Some significant developments are: the increasing use of information technology by firms in less developed countries to improve their business and national economies, the expanding supply chains that are international in scope and depend heavily on information technology, the pervasiveness of offshoring to distant locations by firms in practically all advanced economies, the burgeoning impact of the Internet and e-commerce, and the adaptation of e-government by many government agencies all over the world.

So here it is. This new book not only captures the contemporary global IT issues, but updates the classical issues with updated information. Based on our experience of the three previous books, we were fortunate to know the leading authors and researchers in the global IT field. So we took a different approach in preparing the book and believe, developed a very high quality product. Rather than making a general call for chapters for inclusion in the book, we targeted specific authors for their expertise and invited them to write specific chapters for the book. As you would notice, we have chapters from leading authorities as well as authors from previous books whose chapters were very well received. In addition to the careful screening of authors at the front end, each chapter was further reviewed by the co-editors and went through multiple revisions before final acceptance. We also took extraordinary pains in editing the book so that the book meets the highest standards of professionalism.

The book has twenty five chapters divided into five sections. Each chapter starts off with a chapter summary and is followed by a minicase, listing of important terms, and study questions. The minicase, with its accompanying discussion questions, and the study questions at the end of the chapter can be assigned to students to further illustrate and apply the concepts presented in the chapter. The five sections are: IT in a Global Context, Global Strategies and Policies, Integration of Global Systems, Global IS Development and Outsourcing, and E-Commerce and E-Government.

The first section recognizes that the spread and use of technology has not reached all companies and countries equally. Digital divide continues to persist. Technology flourishes in advanced and newly industrialized countries, but lags in developing and underdeveloped countries. In spite of Thomas Friedman's book "The World is Flat" and using the metaphor of "roads", the roads are still bumpy and not always paved. This section introduces the reader to IT in a global context through a series of six chapters. Chapter 1 looks at the key issues faced by IT executives in four broad categories and provides a model of the global IT environment. Chapter 2 looks at IT environment in Russia, while Chapter 3 examines the use of IT in China. Chapter 4 looks at how Chinese culture has impacted the use of IT in China. Chapter 5 presents a longitudinal analysis of the global digital divide. Chapter 6, the last in this section, presents critical success factors for lesser developed countries to bridge the global digital divide.

The second section examines company strategies and policies, as they evolve from national to global. The policies and procedures that worked well in one country may not work in other countries due to their economy, culture, laws, or other factors. This section presents five chapters that address global strategies and policies. Chapter 7 examines global IT strategies by looking at the issues associated

with global, regional, national, corporate, and individual levels. Chapter 8 looks at public information and communication technology (ICT) policies. Twenty-three examples of public ICT policy are presented, along with a framework to evaluate public ICT policies. Chapter 9 looks at global information technology (IT) architecture. A framework for IT architecture is presented and the framework is evaluated using two case studies. Chapter 10 examines the role of global information systems in managing worldwide operations of multinational corporations (MNCs). Finally, chapter 11 looks at governance in the global information economy. Four companies are described in relation to their governance and shaping of their global systems.

The third section deals with the integration of global systems, which not only involves disparate functions within one's own organization, but also the interface with external entities in various parts of the world. Chapter 12 deals with transborder data flows, or the movement of personally identifiable data from one country to another. The chapter first discusses barriers to the flow of data across borders and then looks at privacy legislation around the world. Chapter 13 examines the global supply chain strategy. Supply chains interconnect companies, customers, and vendors around the world. Chapter 14 deals with cultural asymmetries and the challenge of global enterprise integration. The chapter examines national culture, organizational culture, and information culture and presents implications for management. Finally, Chapter 15 looks at the grounded theory in the design and implementation of information systems for multinational enterprises.

The fourth section presents six chapters on GIS development and global outsourcing of IT and IT Enabled Services. The development of a global information system (GIS) is a complex and challenging task. GISs cross national boundaries, cultures, time zones, and established patterns of organizational behavior. In addition, the concept of outsourcing, or hiring a vendor to manage or operate information system functions, is becoming commonplace. Chapter 16 presents a contextual analysis of GIS development strategies. Nine strategies are identified and discussed in the chapter. A framework for GIS development strategies is presented. Chapter 17 discusses best practices for GIS development. Five tactics for implementing the transnational model are presented. Chapter 18 kicks off the discussion of outsourcing by discussing dynamics of control modes in offshored information systems development projects and the role of culture. An integrative framework for control strategies is presented. In Chapter 19, the author develops a sourcing framework and emerging knowledge requirements for offshoring. Chapter 20 presents critical factors for managing offshore contracts. The final chapter in this section, Chapter 21, presents frameworks for selecting countries and companies for outsourcing.

The final section has four chapters on e-commerce and e-government. E-commerce has the ability to make businesses of all sizes, large or small, global. Time and distance are no longer barriers to serving clients. On the same theme, e-government allows government services and information to be available at anytime and from anywhere, thus meeting the needs of the citizens and businesses more efficiently and effectively. Chapter 22 is a comprehensive chapter on organizational e-Commerce capturing statistics and trends, business models, frameworks, and critical success factors. Chapter 23 provides an understanding of the business-to-consumer (B2C) e-commerce diffusion and the underlying infrastructural factors in six important economies of the world: USA, Germany, and the emerging BRIC countries, i.e., Brazil, Russia, India and China. Chapter 24 appraises the changes in industrial organizations propelled by advances in information technology and electronic commerce, and articulates the growth of global alliances. Chapter 25, the last chapter in the book, addresses e-government concepts, discusses its benefits and challenges, provides status of e-government in different parts of the world, and offers several frameworks

The editors would like to compliment and express their gratitude to the authors of the chapters. The authors have indeed worked hard and made quality contributions. While we managed the project and

provided extensive comments on various drafts at various stages, we thank them for their diligence and perseverance. They went to extraordinary lengths in targeting the chapters to the needs of our readers, presenting contemporary material, and responding to our revision requirement in a timely fashion.

We would also like to express our appreciation to Dr. Dave Yates for the feedback that he provided. His assistance in editing the chapters helped improve the quality of the book.

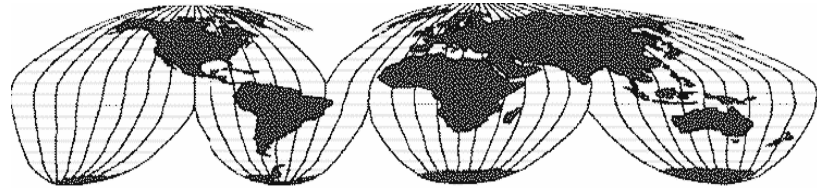
As you can see, the book is quite comprehensive. Each chapter has achieved a high level of quality through the efforts of the authors and the editors. Included at the end is a glossary of terms and index for quick retrieval of important topics. The book can be used successfully in graduate classes as well as for undergraduate classes at junior or senior level. If the number of chapters is too daunting, the instructor can select chapters according to the needs of the institution's curriculum. Please contact any of us and we will be happy to provide sample syllabi for graduate and undergraduate classes. Lastly, we welcome any and all feedback from instructors as well as students.

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1



Challenges of the Global Information Technology Management Environment: Representative World Issues¹

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CHAPTER SUMMARY

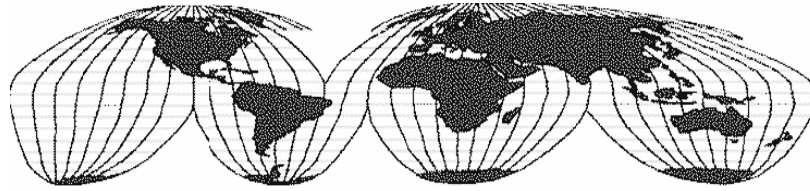
As a vast number of businesses continue to expand their operations into international markets, in order to succeed they need to recognize and understand the considerable cultural, economic, political, and technological diversity that exists in different parts of the world. From a technology perspective, it is widely recognized that information technology (IT) is a critical enabler and many times a driver of global business expansion. However, IT is neither uniform nor applied uniformly around the world. This chapter describes and analyzes the key information systems/technology (IS/IT) issues identified during the last few years in different regions of the world. Encouraged by periodic key issues studies in the US, several researchers have done the same for many other countries. This chapter summarizes many of their findings, and provides insights into the various differences and similarities among countries. A model is developed to help understand the nature of the issues and their underlying causes.

INTRODUCTION

During the past decade, the world has witnessed an unprecedented expansion of business into global markets. According to Thomas Friedman (2005), “the world is flat” and this enormous transformation has come about only in the last few years with the turning of the century. There is universal agreement that information technology (IT) has played a crucial role in the race

¹ This chapter is an adaptation and a major revision of: Global Information Technology Management Environment: Representative World Issues, by Palvia, P., Palvia, S., and Whitworth, J. in *Global Information Technology and Electronic Commerce: Issues for the New Millennium*. Edited by P. Palvia, S. Palvia, and E.M. Roche, Ivy League Publishing 2002, pp. 2-27.

2



Managing Information Assets in a Low Trust Russian Environment

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CHAPTER SUMMARY

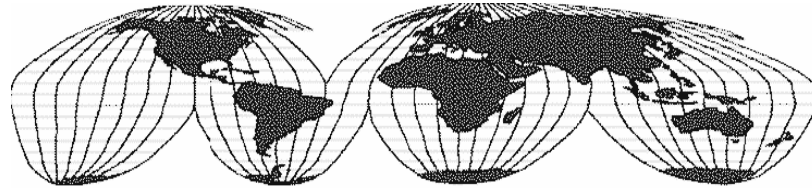
This research examines the relationship between culture, institutionalized secrecy, and historic mistrust and its impact on knowledge creation and decision management in Russia. Russia is rich in strategic natural resources, such as natural gas and oil, and GDP growth is in excess of 6%. Yet, in contrast with emerging economies in Central Europe and Asia, Russia lags in entrepreneurship. Russia's business environment contains a high degree of risk and uncertainty for business partners such as the Rayter group. It is difficult to manage information assets in Russia's low-trust environment. Not only the Soviet past, but also dynamic economic, political, and socio-cultural factors perpetuate mistrust and risk avoidance in this transition economy, with a pernicious impact on management learning. Russia's economy, stability, and information infrastructure have improved in the past decade, but heavy-handed policies and the ensuing business uncertainty not only create top-down unethical behavior, but also compromise the effectiveness of information and communication technologies (ICTs). Mistrust and uncertainty perpetuate the existence of "information classes" and information poverty, and inhibit robust international and intercultural alliances. The author contrasts the lack of initiative and risk among business managers with the creativity, recklessness, and bravado of world-class cybercriminals in Russia. The author justifies Russia as a model for emerging economies that also are constrained by mistrust and cronyism, and suggests strategies to enhance trust and knowledge management.

INTRODUCTION

Russia's Economy and Putin's Role

Russia's GDP in 2006 increased by more than 6%, and the prospects for prosperity are excellent. Oil and natural gas prices are soaring and the ruble is strong and stable. However, free market forces have reversed over the past three years. In late 2006, Thomas Friedman

3



Adoption and Use of Information Technologies in China: Assessing the Modified Technology Acceptance Model

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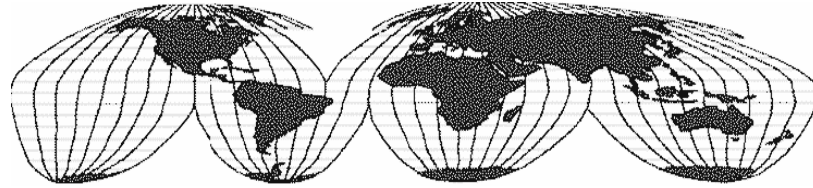
CHAPTER SUMMARY

In this chapter, we describe the status of information technology and trends in China. Specifically discussed will be the telecommunications industry, PC and IT industry, software and IT services industry, and the Internet and e-commerce. While a sound IT infrastructure is a prerequisite, there are many factors that influence organizational adoption of technology. In order to effectively manage technology adoption and use in Chinese organizations, managers constantly face the challenge of applying theories that were developed in the Western countries. However, theories developed in the context of one country may not necessarily work well in a distinctly different culture. It is therefore wise to test these theories before relying on them in any significant manner. We will, therefore, describe the results of a research study that examines IT acceptance and adoption by individuals in Chinese organizations. The study incorporates several factors from existing theories about IT adoption. Comparisons will be made with published studies in the West.

INTRODUCTION

China (officially known as The People's Republic of China or PRC) has increasingly been the focus of attention of the entire world as the country has made phenomenal leaps in economic development. It seems that every sector in China is being characterized as "the fastest growing" and "one of the largest" when compared with the global marketplace. The feelings you get walking on the streets of major cities in China are nothing short of awe and excitement. What is amazing is how fast China has risen to become a major competitor in the midst of fierce global

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Cultural Mediation in the Global Transfer of Information Technology Systems: The Case of China

Carol Pollard

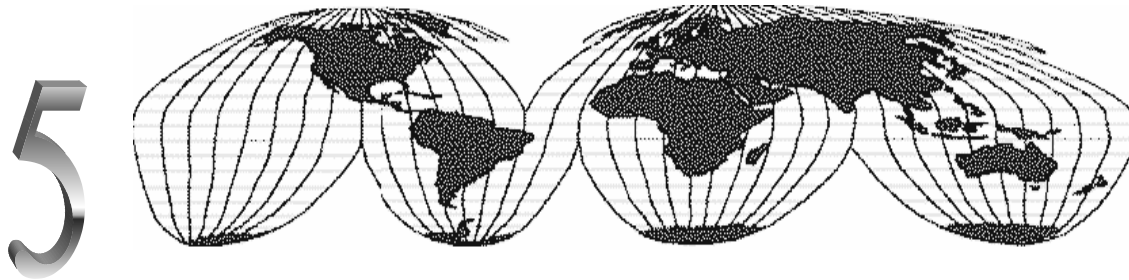
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Yan Nee Ang

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CHAPTER SUMMARY

Globalization and improvements in telecommunication technology are creating different experiences for people of different cultures, including conflict with traditional beliefs because of ambiguous meanings, hidden agendas and diversity of entrenched traditions across cultures. It is anticipated that there will be a cultural price ascribed to the dissemination of information technology artifacts to countries with contexts that are socially, ideologically, philosophically, and historically different. This chapter analyses the impact of embedded ideologies and philosophies in IT models and how they fail to consider a cross-cultural perspective (e.g. Western vs. Eastern philosophies and ideology). To exemplify, we provide a mini-case on the influence of the ti-yong paradigm, used by the Chinese since the second century, as a strategy for adopting foreign technology. We emphasize the need to make necessary adjustments in IT models that need to be made before disseminating into different culture and take into consideration the influence of IT on traditional cultural values in the systems development process.



Global Digital Divide: A Longitudinal Analysis

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CHAPTER SUMMARY

This chapter introduces a modeling scheme containing several new indicators that are relevant for global digital divide. The major contributions of the chapter are:

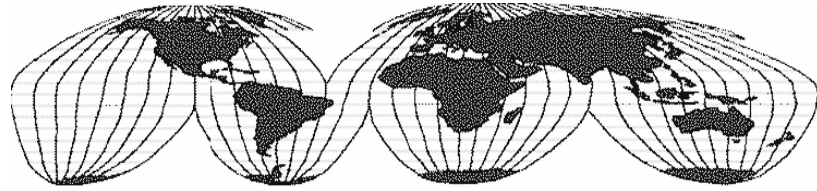
- A set of related technologies has been identified that can contribute to digital divide, and a large set of nations has been examined.
- The findings suggest that the global digital divide is not increasing with respect to the U.S. index.
- The factor values that are responsible for such divide are not all common for the OECD (Organization for Economic Cooperation and Development) and (ECLAC Economic Commission for Latin America and the Caribbean) sets of nations.
- Indicators of digital divide as well as digital divide itself undergo substantial changes over the years.
- Trust building and income improvement of a nation may reduce the digital divide.

Several propositions are evaluated through correlation, regression analysis, ANOVA and Wilcoxon Signed-Rank tests. The important implication of the results is that for the digital divide to be eliminated or minimized, the factors identified in this study need to be properly addressed.

INTRODUCTION

Digital Divide (DD), the gulf between users and non-users in digital technology use, has drawn the attention of researchers and policy makers alike, in recent times (Ge and Jain, 2003; Hoffman et al., 2000; OECD, 2001; NTIA, 2001). Controversy exists regarding the nature and extent of digital divide. For example, some scholars claim that divide is a fact of life and will continue to remain; others claim that the divide is dangerous to our society and should be bridged (Novak and Hoffman, 2001).

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Bridging the Global Digital Divide: Critical Success Factors for Lesser Developed Countries

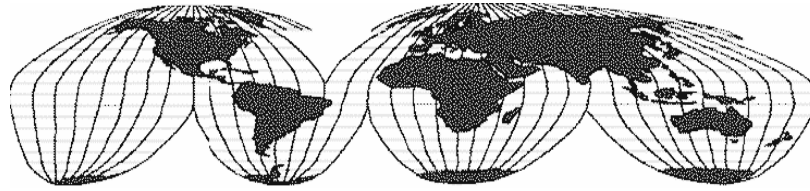
Steven John Simon
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CHAPTER SUMMARY

Developing countries are at a distinct disadvantage when competing with developed countries in the electronic commerce domain. Electronic services hold both peril and promise for developing countries as a means to expedite their entry into the world of cyber commerce, create value-added jobs within their economies, and attract much needed foreign investment. This chapter examines critical success factors (CSFs) developing countries encounter as they develop their cyber economy and explains challenges and potential solutions. Anecdotal evidence and “lessons learned” from developed and developing countries are investigated as well as implications from the World Trade Organization’s (WTO) General Agreement on Trade in Services (GATS) negotiations and Organization for Economic Cooperation and Development (OECD) proceedings. The study develops a framework of technical and societal CSFs whose synergy can expedite the entrance of developing countries into the cyber economy.

GLOBAL DIGITAL DIVIDE

The growth of Electronic Commerce (EC) has been staggering and was expected to reach \$6.2 trillion US by 2004 (Forrester Research 2003). In the developed world, especially the United States and Western Europe, businesses have leveraged the Internet to deliver lower transaction costs, reduced paperwork, and created fluid sourcing that results in improved profitability. Consumers in developed countries have used the Internet as a means to gather information, becoming more informed resulting in changed consumer behavior. Additionally, the advent of EC has opened new sources of products and greater choices for consumers paralleling efficiencies achieved by business. Unfortunately, Internet adoption and gains in efficiency and productivity from the Internet have not yet been replicated in the developing world and has led to the coining of the term Digital Divide – referring to the disparity in Internet access and technology between developed and developing countries or the gap between Internet/technology “haves” and “have-nots.”



Corporate IT Strategies in the Global Economy

Charlie C. Chen

Albert L. Harris

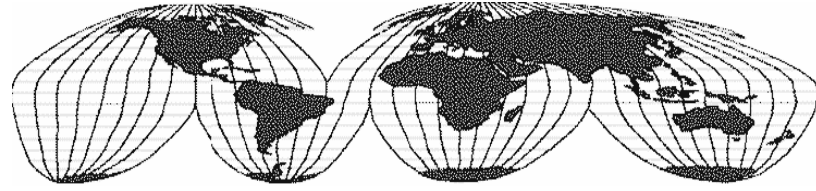
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CHAPTER SUMMARY

Companies in all countries of the world are going global. As they do, they are challenged by a multitude of forces. To be successful in this age of multinational corporations, it is imperative that a global information system strategy be developed to overcome the complexities of global business. This chapter examines corporate information technology strategies in the global economy from five levels: global, regional, national, corporate, and individual. To do this, we first look at global information technology issues for four general categories of countries: Developed, Newly Industrialized, Developing, and Underdeveloped. We use several well known models and frameworks to examine information technology strategy development for multinational companies. We conclude by assessing the impacts of virtuality and virtual teams in global information technology strategy development.

INTRODUCTION

Multinational enterprises (MNEs) relentlessly seek business solutions to the impacts of a saturated domestic market, slowed domestic market growth, increased labor costs, and shortage of specialized labor. One solution is to enter international markets. Other forces are also accelerating the degree of globalization, such as the rise of global standards, global products, global services, and global customers, privatization, advances in information and telecommunication technology (ITT), the growing trade investment, emerging economies, and the emergence of world trade organizations. The degree of interconnection among the world economies continues to grow with the increased ubiquity of telecommunication and networking technology. More than 95% of the Fortune 500 companies have some type of global operations. Many companies in their home countries, particularly in emerging economies, are facing the threats from overseas competition. The dynamics of international competition has given many companies only two strategic options: "go global" or "go bankrupt." This is in conformance with the then Labor Secretary in the Clinton administration, Mr. Robert Reich, who said "Companies that globalize will make history; those who do not will become history."



Public ICT Policy Initiatives and Deployment: Theories, Stakeholders, Success Factors, and Regulatory Tools

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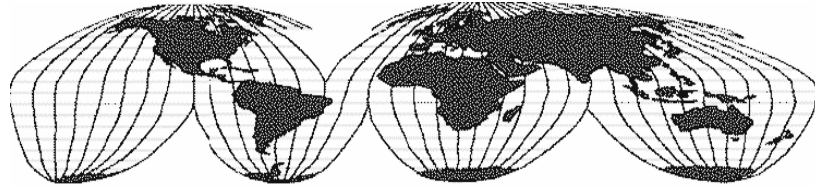
CHAPTER SUMMARY

This chapter looks at public information and communications technology (ICT) policy initiatives and deployment from several perspectives. It presents many of the stakeholders of ICT policy initiatives and introduces twenty three examples of Public ICT Policy. Four categories of ICT policy are presented, including: Information Flow Policies, Economic Policies, Societal-Human Equity Policies, and Governance Policies. The chapter also presents four major frameworks/theories that have been used in empirical public ICT policy studies and identifies five other frameworks/theories. Understanding public ICT policy is important when considering global IT strategies.

INTRODUCTION

Information and communications technology (ICT) has been held up as a source of national wealth and as a solution to cycles of poverty and economic deprivation, both in developing and developed world (Kraemer and Dedrick 1994). In order to leverage national economic and social development by employing ICT, certain public ICT policies need to be enforced. For example, in the domain of IT copyright protection and other forms of intellectual property, countries that lack legal protection for a nation's intellectual property are not likely to create a native industry because firms cannot profit with only one sale of a new product (Checchi et al., 2005), the remainder of the diffusion being pirated copies.² Laws and enforcement of such policies can reverse this effect by encouraging entrepreneurship in developing and marketing locally-owned intellectual property.

² Naturally, a nation can institute any policy it chooses, and one way this can be done to retain/encourage a native industry is to punish violations of copyrights internal to the nation but not those external to the nation. In other words, pursue a policy that differentiates between native-owned and foreign-owned copyrights. Some Asian countries seem to be pursuing this strategy at the time of this writing. As with any other negotiated position in trading relationships, this policy does not breed trust and promote cooperation and in the long run could lead to retaliatory trade practices.



Global Information Technology Architecture: Foundations and Organizational Issues

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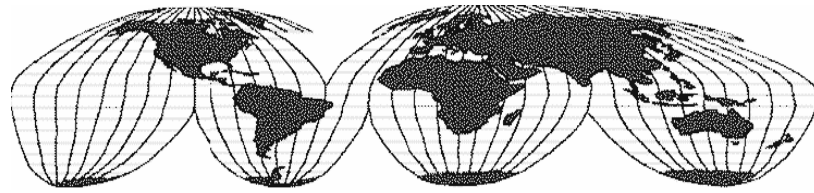
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CHAPTER SUMMARY

A carefully designed global IT architecture is an important organizational enabler for the successful implementation of the business and IT strategy of a multinational corporation. Essentially, an information technology architecture is the design of the various IT elements that work together to achieve organizational goals. Included among these elements are hardware and software, databases, telecommunications, IT standards, and the IT organization. A model for global IT architecture is presented in this chapter focusing on two key processes of integration: control and coordination. Many business factors are examined which impact the architecture. These include: Multinational Corporation (MNC) strategy and structure, strategic disposition, organizational culture and personnel practices. Also described are key steps in IT architecture planning and the role of business strategy and IT strategy in such planning.

A key component of the IT architecture is the IT organizational structure itself. Various management roles are involved in the creation and evolution of the IT organization. These roles range from corporate, business unit, to group services. Among broad choices for IT organizational structure are single corporate department, decentralized IT units, and federal structures. Depending on the management style and MNC structural form, specific roles will be

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The Role of Global Information Systems in Managing Worldwide Operations of Multinational Corporations

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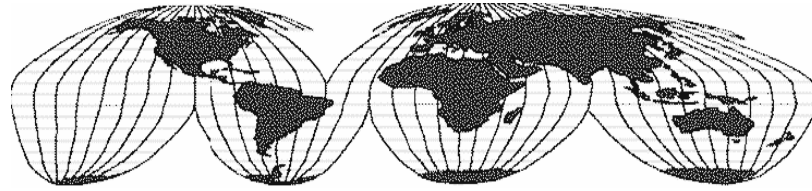
Anil Kumar

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CHAPTER SUMMARY

Information Technology (IT) advances in the last two decades have enabled and accelerated the process of globalization. IT continues to be a critical success factor for effective management and profitability of multinational corporations (MNCs). In this chapter we analyze the role of IT in globalization and emphasize the need to design and develop global information systems (GIS). GIS are complex applications used by organizations that operate in the global environment to help support decision-making, manage organizational data, support and enable organizational business processes, facilitate organizational communications, and support global business strategy. A framework is proposed to comprehend the domain of global information systems. This framework helps understand the characteristics of a GIS. Practitioners can use the framework to guide them in designing and developing a GIS whereas students can use the framework to identify skills they need to successfully design and develop a GIS.

11



Governance in the Global Information Economy

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CHAPTER SUMMARY

In the early 21st century, IT has become more important than ever. Technology evolution, the creation of new channels to global resource pools, increased corporate operational dependence on IT, and enhanced application opportunities have combined to drive this topic much higher on many companies' agendas. Different companies are impacted in different ways. Embedded in this chapter are two analytical frameworks often used by managers to understand this different impact; namely, the strategic grid and technological learning.

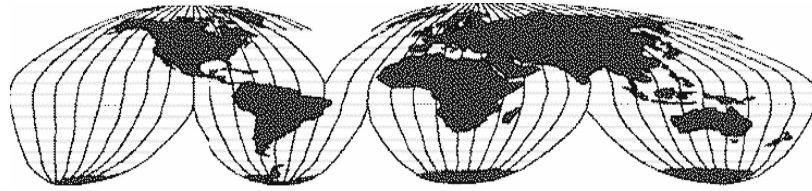
Some aspects of IT have remained unchanged over a 40-year period. These include the constant emergence of new technologies, the obsolescence of technical skills, and the need for strong leadership. For many firms, however, this technology now has a much deeper impact on the transformation of their operations than could have been conceived several decades ago. The chapter successively describes how Otis, World Bank, COSCO and Cathay Pacific have each been utterly transformed by IT.

INTRODUCTION

In the field of information technology, governance has been a timeless and enduring problem. The first Harvard Business School case on the subject was prepared in 1961 entitled "Harmony Life of Hartford" (Overman, 1961) and the issues in that case are still worthy of discussion today. In my first IT book in 1965, a chapter was devoted to the topic, (Dearden & McFarlan, 1965) and it was the primary topic in 1967 in *Computers and Management* (Leatherbee, 1967). In short, the historical roots of the area are deep.

However, the topic turns out to be even more important as we complete the first decade of the 21st century. In numerous organizations, IT is such a critical component of competitiveness and value added that its oversight now extends to the board of directors in companies such as Home Depot, Novell and Procter & Gamble (Nolan & McFarlan, 2005).

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Transborder Data Flows in the Global Economy

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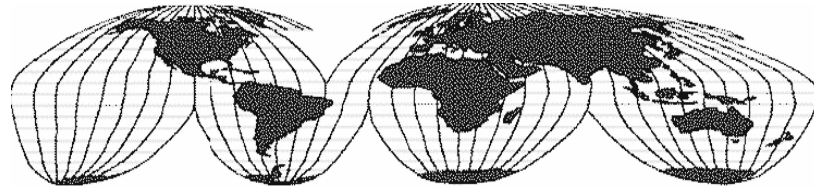
CHAPTER SUMMARY

This chapter examines the impacts that transborder data flows have had on the digital economy and on multinational enterprises. Transborder data flow deals with the movement of personally identifiable data from one country to another. Transborder data flows are impacted by many things, the biggest being country laws on personal privacy. After an introduction and background discussion, this chapter will look at the barriers to the flow of data across borders. The barriers are discussed in three categories: technical, cultural, and legal. This is followed by a discussion on the privacy laws in numerous countries as they impact the movement of data across borders. Next, the impacts of transborder data flows in the online world are discussed. The Internet is all pervasive and allows easy flow of personal data across country boundaries. In many cases people do not know where the data that they provide on the Internet is being sent. The next section will cover the historical impacts of transborder data flow legislation on multinational enterprises. The final section presents some concluding thoughts on transborder data flows in the global economy.

INTRODUCTION

Business today is becoming borderless. Global information systems (GISs) are a necessity for multinational enterprise (MNEs) and have transformed the way MNEs operate. Information and communications technology (ICT) have advanced to give MNEs unparalleled abilities to exploit business functions and units on a global level. If businesses are to operate on a global level, they must be able to move data on a global level and this means that data must travel from one country to another.

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Global IT Supply Chain Strategy: Physical and Social Networks

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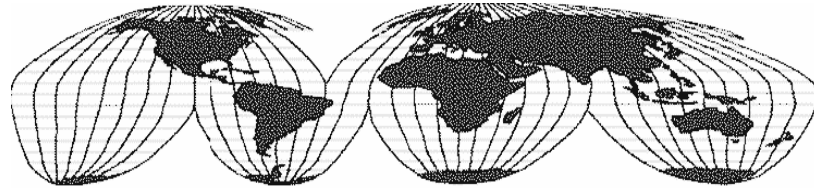
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CHAPTER SUMMARY

Few areas have had more influence on the competitive business environment than the internationalization of the supply chain. Effective management of these geographically dispersed supply chains promises shorter processing cycles, more flexible processing strategies, and lower costs to deliver goods and services. These benefits, however, can only be realized if several difficult problems can be addressed and solved. They include the establishment and management of effective global interorganizational alliances, the coordination of dispersed operations, and the organization of complex logistics operations. Information technology plays a major role in the effective solution of these problems. This chapter explores the trends in international supply chain management, the physical and social networks that facilitate the management of supply chain information systems, and the critical issues in developing a strategic IT plan.

INTRODUCTION

In the last decade of the 20th century, supply chain management (SCM) emerged as an important factor in the competitive strategy of the firm (Dyer, Cho, and Chu, 1998). Today, no firm can successfully compete without a carefully developed and effective SCM strategy (Garten, 1998) (Cho, 2006). The basic goal in supply chain management is to harmonize the flow of raw materials, component parts, finished goods or services from one end of the supply chain to the other. When successful, the right products or services are delivered to the right place at the right time, at the right price, and at the right quality level.



Cultural Asymmetries and the Challenge of Global Enterprise Integration

Barry Shore

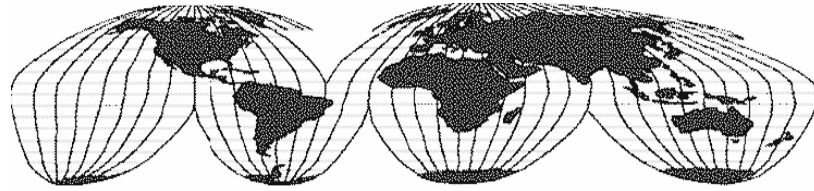
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CHAPTER SUMMARY

In a flatter and more competitive world, organizations, their customers, and their suppliers span the globe. While this distributed organizational environment may be necessary to improve the efficiency with which goods and services are produced and delivered it is not sufficient. Once distributed, the challenge is then to integrate these ‘independent’ units to facilitate efficient response from one end of the supply chain to the other. A critical component of an integration strategy is information. But bringing together and using information from many sources presents its own challenges. One factor, often difficult to address in a concrete way, is that social systems and work practices can be very different throughout the world, and since enterprise integration imposes a structure on these social systems and work practices, geographically dispersed business units are often confronted with collaborative challenges that are difficult to accommodate. This chapter will consider these social or ‘cultural’ influences. It will conclude with several concrete suggestions that could help manage the process of globalization.

INTRODUCTION

In the struggle to maintain a competitive position, many organizations have been forced to compete globally, outsource to a global network of suppliers, and distribute to a globally dispersed customer base. It is only in this way that they can hope to deliver the right products to the right customers, at the right time and at the right price.



Information Systems for Multinational Enterprises: A Grounded Theory of Their Design and Implementation

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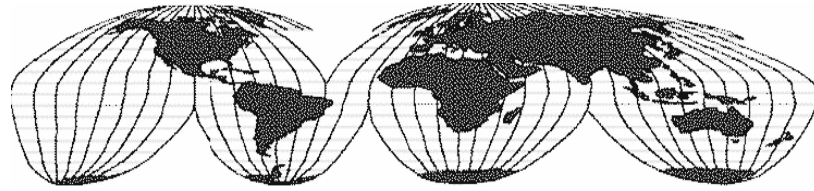
CHAPTER SUMMARY

Information systems for multinational companies (MNCs), referred to as international information systems (IIS), have been a problem area for many years, yet have failed to attract more than token attention from the academic information systems research community. This study applies a grounded theory method to establish a first theoretical framework dealing with the structure of IIS and the dynamics of their development and implementation. The substantive theory is based on extensive, long-term work with three MNCs and covers four key areas: (a) The dealings between the actors concerned with an IIS take place in a Force-Field; (b) The Force-Field is reflected in a generic two-dimensional architecture of an IIS, which always has a 'Core' of systems used by all (or many) of the regions and 'Local' systems, different at every regional site; (c) The balance of functionality between the 'Core' and the 'Local' parts of an IIS follows the degree to which the operations of the MNC require synchronous access to data and processing within the IIS; and (d) The interactions of IT and users in the Force-Field follow a cyclical, self-reinforcing dialectic such that an enforced consensus process is required in order to boost acceptance and to limit the probability that continuing rejection leads to catastrophic failure. The limitations of the theory are discussed and directions for future research are given.

INTRODUCTION AND RESEARCH QUESTION

Two trends have dominated the world of business during the last three decades: globalization and information technology. Yet the obvious fusion of these two pivotal driving forces, the application

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Global Information Systems Development Strategies: A Contextual Analysisⁱ

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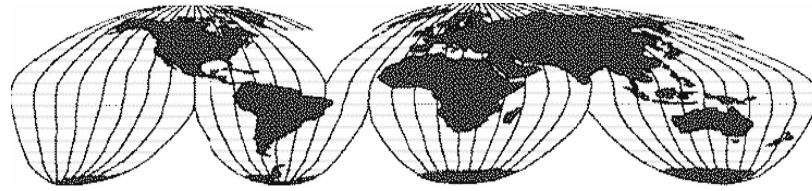
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CHAPTER SUMMARY

Developing global information systems (GIS²) is a formidable task. Multinational companies operate in regions that are thousands of miles, many time zones, and many cultures away from the headquarters. Organizing the activities and aligning the tasks and mindsets of people that are so far apart and to actually change the way business is conducted through the use of new information systems is a major challenge. The global dimension presents even a bigger challenge. This chapter discusses alternative global IS development strategies that may be used and the factors that impact the selection of these strategies. The viability of these strategies and the accompanying factors is demonstrated through the approaches used to develop information systems in a large transportation company.

INTRODUCTION

Information technology (IT) and its impact continue to grow at whirlwind speed throughout the globe. Cheaper and faster computers and communication devices are introduced to the market every day.



Global Information Systems Development: Best Practices³

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CHAPTER SUMMARY

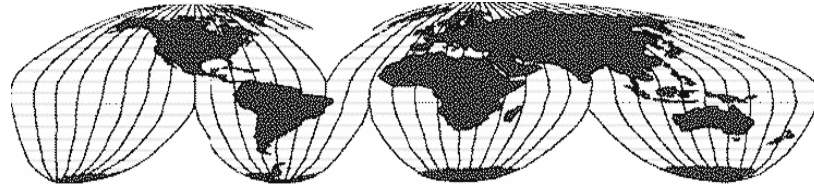
With companies employing global structures to gain competitive advantages and ensure profitability, globalization of business is accelerating at a phenomenal rate. The primary objectives of this chapter are to explore the implications for companies “going global” and to identify the information technology (IT) infrastructure required to support global operations. The chapter draws upon previous work on global management and the role of IT in global enterprise. Five operational tactics, accompanied by case examples, for implementing the predominant IT strategy are also presented. The chapter concludes with an extensive look at five strategies for successful global applications development, and the ever-changing role information systems (IS) and global strategies play in that context.

INTRODUCTION

Global business is accelerating at a phenomenal rate. Since 1950, world trade has proliferated over 700%, while world GDP has grown 400%. Rarely a week goes by where the balance of trade between the major countries of the world (frequently, the U.S.A. and China) is not a news item. Exports are key to that growth, with most countries emphasizing exports and the balance of trade as a means and measure of economic growth and national vitality. When domestic markets may be saturated or limited, global markets often offer opportunities for profits and competitive advantage.

³ Much of this chapter is an outgrowth of previous research as discussed in Janz, Vitalari, and Wetherbe (2002).

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Dynamics of Control Modes in Offshored Information Systems Development Projects

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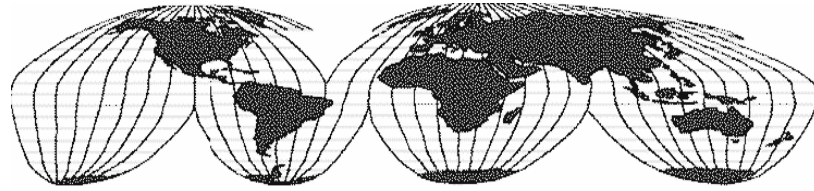
CHAPTER SUMMARY

In today's competitive arena, companies are increasingly exercising the option of IT outsourcing for realizing strategic and non-strategic business initiatives. One aspect of IT outsourcing is globalization of information systems development (ISD) activities. The reasons why companies offshore their ISD activities (reduced costs, abundant skills, etc) have been well documented. However, many recent studies report that the benefits intended from the offshoring arrangement are usually not realized, and more than 75% of projects are partial or outright failures. Conversely, the project management literature portrays control as an important factor that enhances project success. This chapter draws from the extensive ISD literature to develop a theoretically grounded framework to examine the dynamics of control in offshore context. We conduct an in-depth analysis of literature related to project management, organizational control and national culture. Our findings reveal that culture differences are important and must be considered when designing control strategies for offshored projects. Further exploration reveal other factors such as task characteristics, project characteristics, environment and people characteristics influence the control strategy. Managerial implications for the same are presented towards the end of the chapter.

INTRODUCTION

Ever since Kodak's landmark decision to outsource the bulk of its information technology (IT) functions in the late 1980s, IT outsourcing has been a widely publicized practice (Rottman and Lacity, 2006). Despite the recent softening in the technology sector, the world wide market for externally provided IT services continues to grow (NASSCOM, 2004). Two generic trends have been observed in IT outsourcing. First, the outsourcing of IT products and services has evolved from a solution to the problem of incompetent IT management to a key competence of IT

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IS Offshoring: A Sourcing Framework and Emerging Knowledge Requirements

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CHAPTER SUMMARY

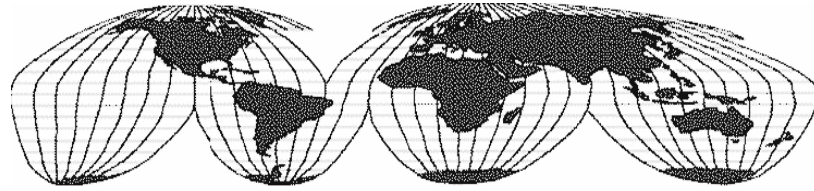
The offshoring of information systems tasks has come to be a major feature of the international IS domain. This chapter introduces some basic concepts of offshoring, some reasons companies are offshoring, how offshoring has evolved, the costs and benefits of offshoring, difficulties and risks of offshoring, and the future of offshoring. It also provides a framework for analyzing IS offshoring and outsourcing decisions and discusses the emerging offshoring-related knowledge requirements for people working in the IS field. This chapter makes a case for IS professional who are knowledgeable in offshoring management by providing management and skill requirements and implications for IS/IT educational programs.

INTRODUCTION

The outsourcing and offshoring of information technology (IT) activities has become an important element of information systems (IS) management. IT activities, which were once performed almost exclusively in-house by most kinds of business firms, are now often outsourced to vendors who are specialists in some phase(s) of IS such as programming, help-desk operation, or data center operations. Increasingly, vendors are “moving up the value chain” to offer ever-more-sophisticated services.

Dealing with a myriad of such arrangements has become an important element of the IS manager’s job. The knowledge and skill requirements for managing outsourcing and offshoring are quite different than were the requirements for effectively performing these activities in-house. It is these new managerial knowledge and skill requirements on which this chapter focuses.

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Critical Success Factors in Managing Offshore Software Outsourcing Relationships

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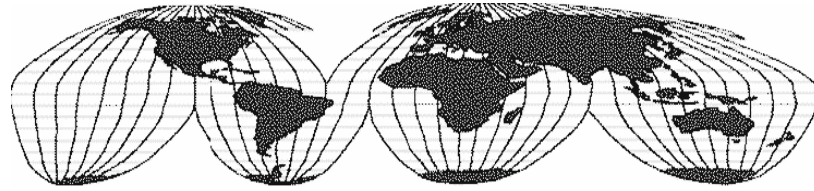
CHAPTER SUMMARY

This chapter presents the empirical investigation of offshore software outsourcing relationships between high maturity Indian software companies and their US and European clients. Comprehensive literature survey serves as the basis for the grounded case research methodology utilized for the contents of this chapter. We have identified critical success factors for effectively managing offshore software outsourcing relationships. The critical success factors common to both clients and vendors are: managing constant communication, having in place a structured process driven approach, doing appropriate resource allocations, and managing outsourcing projects' expectations. Additional critical success factors identified by clients are: spending time together by visits to each others' sites and making regular payments. Vendors also identified other factors as important -- cooperation, transparency, consistency, and proactive stance. Based on the emergent critical success factors, working solutions for identified challenges, testable propositions and a working model on managing offshore software outsourcing relationships are proposed.

INTRODUCTION AND LITERATURE REVIEW

The critical success factors in managing offshore outsourcing relationships described in this chapter are based on the empirical investigation into high maturity Indian software companies and their offshore clients. High maturity is referred to companies having CMM (Capability Maturity Model) certification level 4 or 5. The empirical investigation focused on motivators, difficulties, management issues and trust building in offshore software outsourcing relationships (for example, refer to Oza et

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Global Outsourcing of IT and IT Enabled Services: A Relationship Framework and a Two Stage Model for Selecting a Vendor

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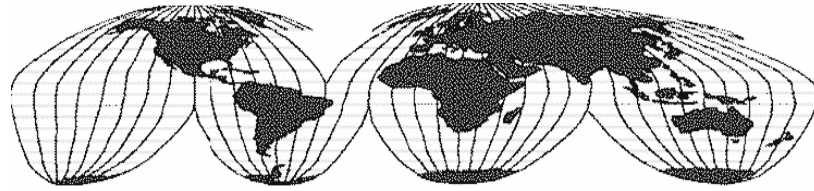
CHAPTER SUMMARY

Information systems outsourcing has become an accepted practice and a strategic choice for many firms in the Western world. The global market for outsourcing of Information Technology (IT) functions took off in the late 1980s. Since the beginning of the new millennium, the global market for IT as well as IT enabled services (ITES) has been growing steadily. The functions being outsourced have increased in scope and magnitude as well as climbed the value chain ladder. IT functions include IS analysis, IS design, IS development, IS implementation, and the management of entire data centers. IT enabled services, also called business process outsourcing, include functions like call centers, accounting, payroll, employee benefits, tax preparation, radiology analysis, films and cartoons production, healthcare, medical tourism, and research and development. Outsourcing locations can be onshore, nearshore, offshore or farshore. This chapter provides a relationship framework for global sourcing arrangements, subsidiary, joint venture, or outsourcing, for accomplishing IT and IT enabled services in the context of on-shoring as well as off-shoring. We also articulate and describe a two-stage model for selecting a vendor country and a vendor company.

GLOBAL MARKET FOR OUTSOURCING: PAST, PRESENT, AND FUTURE

Outsourcing, especially offshoring, exemplifies the essence of true globalization, with services being provided where they can be most efficiently and cost effectively produced and delivered where they are most needed and valued. With the boom in globalization, both IT outsourcing and business process outsourcing (BPO) have reached new heights and continue to climb.

In 1989, outsourcing was approximately a \$4 billion business (Lacity et al., 1996). In 2000, outsourcing of IT functions reached \$56 billion per year (Casale, 2001) and by 2005 it was



Global E-Commerce: Domain, Business Models, Framework, Barriers, and Future Trends

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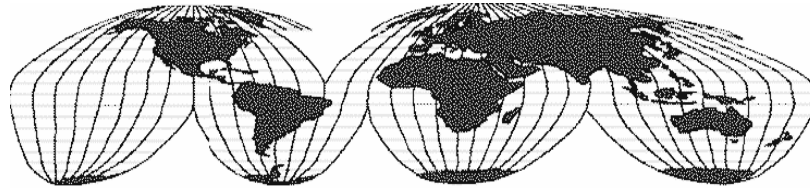
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CHAPTER SUMMARY

In a little over a decade, the Internet has been transformed from a messaging system to a vast information source to a comprehensive commercial platform. The impact of the Internet has been profound in almost all aspects of human endeavor. Internet and global private networks provide the necessary IT infrastructure to conduct e-commerce globally. The nucleus of electronic commerce can be a business, a government organization, or a non-governmental organization. Four types of electronic commerce are elaborated -- B2B, B2C, B2G, and NGO2C. A framework is presented to aid in comprehending and addressing global electronic commerce issues. This framework articulates and describes several barriers -- cultural, administrative, geographical, and economic-- to global e-commerce and the four phases of Customer Service Life Cycle -- requirements, acquisition, ownership, and retirement/upgrade. Next, some critical factors for success of global e-commerce are presented, followed by some future trends for e-commerce.

INTRODUCTION AND STATISTICS

In the wake of the cold war between the US and the USSR in the 1960s, Advanced Research Projects Agency NETwork (ARPANET), funded by the U.S. government, created a network of a few computers to share and save sensitive and security related information. The modern Internet evolved in the late 1980s to facilitate efficient e-mail communication and data sharing among geographically dispersed computers. Within a span of less than two decades, the Internet has changed from novelty to being an essential part of individuals, organizations and governments. In 1990s, the Internet became popular for its usability for instant messaging, bulletin boards, and message threading. During this period, the World Wide Web (WWW) became a treasure of human knowledge -- ranging from



Diffusion of E-Commerce in Several Economic Regions of the World

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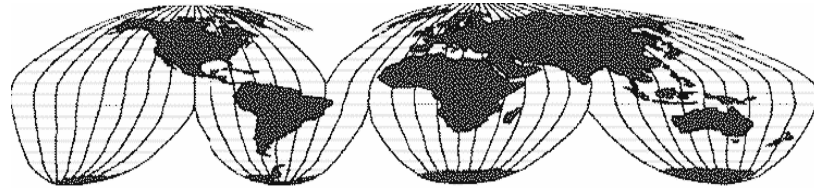
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CHAPTER SUMMARY

E-commerce is one of the most visible examples of the way in which Information and Communication Technologies (ICT) can contribute to economic growth. It helps countries improve trade efficiency and facilitates the integration of developing countries into the global economy. Electronic commerce has fundamentally changed the way business is conducted around the world. The importance of e-commerce adoption and the associated socio-economic impact on various countries has been widely acknowledged. There is evidence that countries that are at the forefront of the e-commerce revolution have benefited immensely. The commercialization of the Internet and World Wide Web (WWW) has driven electronic commerce to become one of the most important mechanisms for facilitating the sharing of business information between organizations, consumers, and business partners. The objective of this chapter is to understand B2C e-commerce diffusion and the underlying infrastructural factors in six important economies of the world: USA, Germany, and the emerging BRIC countries, i.e., Brazil, Russia, India and China. The chapter explores the current status of e-commerce in these countries, current initiatives underway and future trends that can lead to sustained national and economic growth.

INTRODUCTION

The growth, integration, and diffusion of information technology and communications are changing our society and economy. Today, computers and electronic devices increasingly communicate and interact directly with other devices over a variety of networks, such as the Internet. They are able to foster innovation and improve productivity. They can reduce transaction costs and make available in mere seconds a rich store of global knowledge (Ecommerce and Development Report, 2004). ICT and globalization have combined to create a fundamentally new economic and social landscape with



Global Information Technology and the Rise of Global Corporate Alliances

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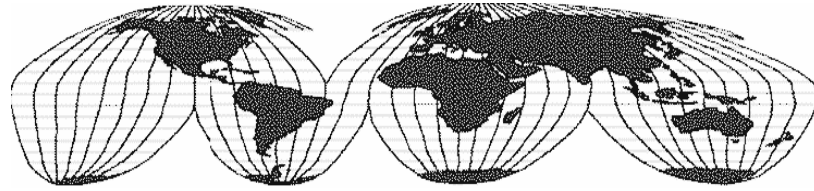
CHAPTER SUMMARY

This chapter discusses the changes in the industrial organizations that are propelled by the advances in IT. A major conclusion is that the dichotomous partitioning of the economic agents into firm and outsiders may no longer be valid since the organizational boundaries are becoming blurred. Other major changes that are defining the new industrial organizations are the emergence of redesigned and realigned distribution channels, industry alliances among once competing firms, and a trend toward smaller firms. IT is pivotal in these changes in industrial structures and in creating agile organizations that can respond quickly to customers and markets. Technologies are needed to create closely integrated operations and meld disparate hardware and software platforms to work in unison, while keeping all or most of the existing computing infrastructure. Web services are the new technologies that will solve the hardware and software heterogeneity and incompatibilities that are prevalent in global operations. Recent advances in technologies and architectures to integrate information systems are outlined.

INTRODUCTION

Advances in information technology (IT) have transformed the organization, operation, and management of businesses. It is well documented that IT is instrumental in reducing layers of middle-level management, resulting in flatter organizational hierarchies, the use of matrix organizational structures to work on specific organizational goals and projects, the creation of virtual organizations, and in making geographic distance, for most purposes, irrelevant. Yet, the changes in the relations

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E-Government Concepts, Frameworks and Implementation: Worldwide Status and Challenges

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CHAPTER SUMMARY

The evolution of the Internet has created the underlying infrastructure for electronic government (hereafter called e-government), both in information and service delivery; and, in fostering the exchange of information with an informed, aware citizenry. E-government generally refers to the delivery of national or local government information and services via the Internet or other digital means to citizens or businesses or other governmental agencies. The purpose of e-government is to develop a government e-portal, a one-stop Internet gateway to major government services. E-government provides efficient government management of information to the citizen; better service delivery to citizens; and empowerment of the people through access to information; improved productivity and cost savings in doing business with suppliers and customers of government; and participation in public policy decision-making. This chapter looks at the concepts, frameworks and implementation of e-government systems. As part of the discussion, it looks at the current status of e-government worldwide and identifies some future challenges for e-government systems.

INTRODUCTION

A very significant number of nations at all levels of government are already offering e-government services. Approaches to e-government program offerings and e-government readiness vary from country to country. The United Nations (UN) E-Government Survey 2005 conducted a study to assess the public sector e-government initiatives of 191 UN member states according to a weighted average composite index of e-readiness based on website assessment; telecommunication infrastructure and human resource endowment. It is expected that e-government will bring ultimately
