Prepared by: Andrew Schwarz and Beena George
under the supervision of Dr. Wynne Chin

## Executive Summary

As organizations spread from domestic to international, the development and deployment of IT becomes increasingly more complex. Now that the information technology is operating in a foreign market, a number of factors now effect the system in new ways. For example, planning is different in a global versus domestic firm, for project managers and developers must be familiar with the complex nature of the new country. Further, a global information technology architecture must now be developed that is consistent with the corporate and IT structure. Research has found a number of options exist for global IT architecture, each with characteristics and assumptions that will allow the organization to be flexible or rigid.

Once the planning is complete, the system must account for a variety of country-specific issues, including the technological environment, the social/cultural environment, the political/legal environment, and the economic environment. Beyond obvious language and cultural differences, the environments of the host country must be considered before implementation. Failure to account for these different environments will effect the satisfaction with the new system.

Further, user satisfaction is also affected by the culture of the host country. While similarities exist between all countries in what will satisfy a user, there are a variety of factors that disproportionately affect user dissatisfaction in other countries. Finally, after the system has been diffused, maintenance of the new system is complex in multinational corporations. Beyond the obvious physical separation, language and cultural differences make supporting users more difficult in the global context. While there are a variety of issues facing MIS in the global environment, the spread of business into the international domain makes it a necessity for MIS managers to have the capability to account for these differences and successfully deploy a global IT strategy.

# Integrated Framework

We are told that "the world has begun to resemble a global village." As the global village takes form, firms will begin to capitalize on the opportunities that exist worldwide. Thus, the information technology (IT) departments will need to serve and support a global workforce. With globalization of IT comes a new set of rules and procedures, specifically on the processes involved in the development and deployment of information systems in the global corporation. Specifically, a global information system is "a computerized system which supports the business strategy of a multinational organization and deals with the components of the international market as a single market and not individual markets" (Palvia 1992). The different issues facing an information system in the intemational dimension will be presented and then analyzed in the context of systems development and deployment.

Before a project can be developed, it first must be planned. There are two viewpoints that examine the differences in planning between a global and domestic IT projects. One viewpoint is that, despite the differences in external factors, a global IT project is similar to a domestic one, while the other side proposes that the two are dissimilar. Research has found that the degree to which global projects and domestic projects are different depends upon three factors:

- Variety, or the degree to which the application involves a set of countries that vary significantly on the external dimensions;
- Complexity, or the number of relevant factors that interact in a system decision; and
- Familiarity, or the familiarity of the global context to the project manager (Tractinsky and Jarvenpaa 1995).

These three variables affect whether or not a project is planned locally at headquarters or distributed to the remote offices. Thus, organizational factors also play a role in global IT planning. Among the other important variables in IT project planning is the location of decision-making in the multinational company. There are three approaches to Multinational Corporation IT planning:

- The Multidomestic MNC, where the decision making is highly decentralized
- The Transnational MNC, where the decision making is partly centralized and partly decentralized, and
- The Global MNC, where the decision making is highly centralized (Cheung and Burn 1994)

While planning, there are pressures to centralize or decentralize the programming of the current system. Table 1 illustrates the pressures of IS centralization versus pressures of IS decentralization.

| | Pressures to Centralize | Pressures to Decentralize |
|---|---|---|
| **Business Nature** | | |
| Product Standardization | Standard Products | Diversified Products |
| **Business Philosophy** | | |
| Business Competitive Strategy | Global | Multidomestic |
| Organizational Structure | Global | Multidomestic |
| **IS General Orientation** | | |
| Efficiency and Effectiveness | Efficiency | Effectiveness |
| Degree of Data Sharing | Large | Small |
| **Availability of IS Resources** | | |
| Personnel | Suitable Qualified IS staff cannot be found in foreign areas | Suitable qualified IS staff can only be found in foreign areas |
| Technology | Required hardware and software cannot be found in foreign areas | Required hardware and software can only be found in foreign areas |
| **External Environments** | | |
| Pressure from host government to force local economic involvement | Low | High |
| International agreement | Low | High |

**Table 1** Pressures of IS Centralization versus Pressures of IS Decentralization (Cheung and Burn 1994)

Beyond the organizational coordination problems, during the planning of an international information technology project, four other factors must be addressed:

1. The technological environment, including regulatory strategies, vendor support in foreign subsidiaries, the price and quality of telecommunications in the country, and the level of information technology sophistication in the country,
2. The social/cultural environment, including local cultural constraints and language barriers,
3. The political/legal environment, including transborder data flow restrictions, legal restrictions on hardware/software, telecommunications deregulation, and banned usage of telecommunications equipment, and
4. The economic environment, including currency restrictions and exchange rate volatility, export restrictions, and the national infrastructure (Deans and Ricks 1991)

Next, each of these four factors will be addressed in the context of the development and deployment of IT in the global corporation.

The first factor to address is the technological environment. Global multinational corporations approach global IT architecture in several ways. Table 2 demonstrates the different ways to approach a global IT architecture.

| Element | Type I | Type II | Type III | Type IV |
|---|---|---|---|---|
| Computing Compatibility | Large headquarters systems incompatible with subsidiaries | Locally tailored, cooperative systems | Self-reliant, compatible function unit systems | Fully compatible, integrated systems |
| Data Transparency | Low sharing of isolated data | Specialized databases | Multiple local data systems, some sharing | Continuously shared, highly transparent data |
| Communication Connectivity | Very low frequency and volume of routine data transmission | Low volume of routine and non-routine data transmission | Moderate frequency and volume of routine data transmission | High frequency and volume of both routine and non-routine data transmission |
| Applications Functionality | Local, cost reduction applications | Innovative Applications | A few common functional area applications | Sharing of best practices application |
| Information Technology Planning | Efficiency goals, non-strategic planning | Value maximization objectives | Resource-based planning | Integrated information technology and strategic planning |
| Information Technology Organization | Back room, no formal reporting | Middle Management Level | Functional business units | Complex, hybrid |
| Information Technology Control | Tight control of subsidiary information technology | Headquarters support but local control by subsidiary | Headquarters-imposed budgetary control | Shared responsibility and control |

**Table 2** Comparison of Architecture Types (Gibson 1994)

Further, beyond differences in approaches to IT architecture, sourcing decisions have also been affected by the complexity and variety of information systems that exist in different global locations. Outsourcing of selected information and other administrative functions provide an attractive alternative to organizations over modifying existing systems. Further, outsourcing of selected functions as telecommunications offers organizations the flexibility to enter or leave international markets without making large investments in infrastructure. The advantages of global outsourcing include significant cost savings and capital market gains, faster cycle time, help in developing and operating global information systems and access to foreign markets and a skilled labor pool

The next factor to examine is the social/cultural environment. Beyond obvious language differences, cultural differences exist. Consider a new system being implemented across cultures. The new information system will either be similar (high on task similarity) or different (low on task similarity) than the old system. Further, the new system is being implemented in a market with a local environment that is either highly competitive (high competitive environment) or not highly competitive (low competitive environment). Thus, the question is how these two variables vary with the influence of national culture in the IS transfer. The results are found below in Table 3.

| Task similarity | Competitive environment | Influence of national culture on IS transfer |
|---|---|---|
| High | High | Low |
| High | Low | Moderate |
| Low | High | High |
| Low | Low | Very High |

**Table 3** Cultural conflict matrix (Shore and Venkatachalam 1996)

Thus, even the role of culture is dependent upon other factors beyond the obvious language and cultural differences.

The third factor to examine is the political and legal environment. In planning for a global IT project, one of the important business drivers in the analysis phase is if the system is exclusively for a foreign subsidiary or is designed to be used corporate-wide. The local or global question has implications, for international data sharing laws will impact the logical design. For example, data can be categorized into four types:

1. Operational data, including orders, accounting statements and records, or management directives
2. Personally identifiable data that pertain to credit records, travel reservations, or employment records
3. Electronic transfers of money, and
4. Technical and scientific data that includes instructions for operating machinery in a plant (Ives and Jarvenpaa 1991)

Since the data flow will be occurring across the borders of many countries, different laws can affect the flow of data. Data privacy and transborder data flows (TDF) laws restrict the flow of personally identifiable data across borders. A 1985 study found that 63% of companies surveyed considered TDF laws to be a serious potential problem (Ives and Jarvenpaa 1991).

The last factor to consider is the economic environment. Global information systems face problems such as:

- Restrictions on the export of data processing equipment and software to some countries
- International data centers that are cost effective and competitive that may suddenly become cost ineffective due to currency fluctuations
- The availability of a transportation system and utilities in some countries may constrain feasible technology alternatives (Deans and Ricks 1991)

After the project has been planned, accounting for cultural factors and the project has been rolled out, the success of the project must be determined. Research has been found that, in order for a system to be successfully implemented at the global level, four criteria are important:

1. Global users of information systems need to be active participants in the process of developing and implementing the system
2. Global users need to have a psychological involvement with the information system being implemented
3. Managers need to establish fair procedures for the allocation of information system resources and those procedures must be perceived by the users as equitable, and
4. The quality of a system, and the information it provides to the user will impact directly on individual perceptions of the system's success (Ishman 1996)

While the four criteria are also important on a domestic level, it is important to realize that a successful implementation can be achieved cross-culturally if all of the important elements are accounted for globally as well. Thus, despite the economic, demographic, and psycho-sociological variances, users still want to be psychologically involved in the process and the system must be of high quality, regardless of their cultural background and differences.

Differences in cultural background also affect user satisfaction. A recent study involving firms in Oregon and China found that users in both countries were satisfied with their relationship with and attitude of the IT staff, accuracy, relevance, precision, and reliability of output. However, users in China were less satisfied with their level of participation than those in the offices in Oregon and thus were less satisfied with their understanding of the system. While the exact link between cultural differences and satisfaction are unclear, it is certain that cultural values were linked to satisfaction (Harrison, Farn, and Coakley 1992).

After the system has been fully implemented, the last stage is maintenance of the new information system, or the systematic repair and improvement of the new system. Research has found that the most successful global networks were those were two specific management policies were established: corporate policies and help desk support. Corporate policies help to establish standards for hardware and software compatibility, with the help desk support increasing perceptions that top management is concerned about the success of the global network. Thus, successful maintenance and repair is more of a function of internal than external factors in a global corporation (Steinbart and Nath 1992). Further, maintenance is complicated in a global organization, for there is a physical separation between headquarters and foreign subsidiaries that makes global maintenance an IT challenge.

To conclude, as the world continues to resemble a global village, IT will need to support the users in the global village. There are a variety of factors that contribute to global IT complexity that need to be addressed at all stages of the systems development life cycle. Accounting for the variety of factors will allow a global Information System to be successful and enable a global corporation to be successful in the 21st century global village.

## Implications for Management

The research on the development and deployment of IT in the global organization has implications for management. Management must realize that there a variety of factors to consider when designing an information system in the global context. Global IT managers must:

- Examine the differences that exist between the host country and the foreign subsidiary beyond language and cultural differences. Consider technological, political, and economic differences when designing the system and assessing user satisfaction.
- Realize that beyond the role of culture in the adoption of new technology there are factors within control of IT, such as task similarity, training, and user participation in planning, that can mediate the influence of culture.
- Examine the characteristics of the global IT architecture. It is necessary to ensure that the proper architecture is supporting the organization on a global scale and not simply domestically.
- Realize that there are unique pressures facing global IT projects. Each country has different issues that the MIS manager must consider when implementing a global IT system. Further, consideration must be given to the experiences of project management in the host country when assigning workloads.

As IT managers manage a global IT infrastructure and plan, develop, and deploy projects on an international scale, unique problems will surface. Through a dialogue with the uses in the host country, plus the consideration of a variety of factors, users of all countries will deem global systems successful, despite differences in culture, politics, economics, and technology.

**College of Business Administration**
**University of Houston, Houston, Texas, 77204-6283**
**Phone: 713-743-4691 Fax: 713-743-4693 E-mail: isrc@uh.edu**

**Article Title: "Role of National Culture in the Transfer of Information Technology"**

Summary:
Implementing a system in a foreign culture poses a myriad of problems. This paper explores the role of culture and argues that two other factors, task congruency and the competitive environment of the local marketplace, intervene and can influence the role of culture in IT transfer.

Value to Managers:
Managers should realize that culture plays a role in IT transfer to a new culture. However, there are factors within control of IT, such as task congruency, that can mediate the influence of culture.

Description:
The researchers argue that national culture is not the only factor that influences the transfer of information technology. They hypothesize that task congruency, or the similarity of the new information system to the old information system, and the competitive environment of the local marketplace can affect whether the national culture has an effect on IT transfer (for the Culture Conflict Matrix, see Table 3). The researchers then use examples of an accounting application in the former Soviet Union, physical distribution in Western Europe, and medical electronics manufacturing in Western Europe to determine if task congruency and the competitive environment can help to explain the role of culture in the transfer of information technology.

Key Lessons:
The role of culture is dependent upon several factors. During certain circumstances, culture does not influence IT transfer as much as other factors, including the similarity of the new technology to the old technology and the competitive environment of the marketplace.

Cautions:
The research is a preliminary attempt to build a transnational model. Several studies are necessary to develop more insight into the culture conflict matrix.

Research Base:
The culture conflict matrix was developed from research and was tested using three case studies, one from literature and two undertaken from the authors.

Reference:
*Role of National Culture in the Transfer of Information Technology* by Barry Shore and A.R. Venkatchalam in **Journal of Strategic Information Systems**, volume 5, pages 19-35, 1996.

**Article Title: "Global Information Technology Architectures"**

Summary:
After reviewing literature on IT architecture, the authors developed a typology of four different architectures found in global firms (for the typology, see Table 2). Interviews were conducted with global firms, who confirmed the four types and the characteristics for the typology.

Value to Managers:
To ensure that the IT function of the organization is functioning properly, there needs to be a fit between the characteristics of the IT. It is necessary to ensure that the proper IT structure is supporting the organization.

Description:
Researchers have argued about a framework for the types of architectures that exist in global firms. Various studies have found 3 to 5 different types of global IT systems, but none have been empirically proven. The researchers synthesized the research to create four different typologies and then empirically proved that their framework was able to characterize the global IT systems. Interviews were conducted with the American headquarters of firms that have foreign subsidiaries. The results confirmed the existence and characteristics of the four types of systems.

Key Lessons:
When globally competing organizations are deciding on an information system, there are several options to consider. Each of the architectures has certain limitations and characteristics that will allow it to be flexible or rigid for an organization.

Cautions:
Interviews were completed only with the American headquarters of firms that have foreign subsidiaries. It is unclear if the typology would work with a foreign headquarters and American subsidiary or for other combinations of global IT systems.

Research Base:
A research questionnaire was distributed by mail to a sample of firms by cross referencing the *Directory of American Firms Operating in Foreign Countries* with the *InformationWeek* list of the five hundred American firms considered to be the largest and best users of information technology. 272 questionnaires were mailed out, with a final response rate of 23%.

Reference:
*Global Information Technology Architectures* by Rick Gibson in **Journal of Global Information Management**, volume 2, pages 28-38, 1994.

**Article Title: "MIS Research: A Model for Incorporating the International Dimension"**

Summary:
As MIS managers become responsible for handling global IT initiatives, a number of country-specific issues must be addressed, including the political/legal environment, the social/cultural environment, the technological environment, and the economic environment of the host country. Failure to account for these environments will likely result in failure in the implementation of a new system.

Value to Managers:
There are unique pressures that face MIS managers as they handle global IT. Each country has different issues that the MIS manager must consider when implementing a global IT system.

Description:
As businesses continue to expand internationally, research needs to begin incorporating the new dimension. The authors were seeking to identify the important international MIS issues, to categorize the issues, and to build a model that reflects the results. The authors identified 32 international MIS issues and further found that, in addition to the organizational issues, there were four major international issues:

1. Political/legal environment issues
2. Social/cultural issues
3. Technological issues
4. Economic issues

The authors then present their model of MIS research. They argue that the foreign environment of the host country has economic, social/cultural, technological, and political/legal issues. Within the foreign environment is the international environment, followed by the domestic (U.S.) environment, the organizational environment, and finally MIS. Each of the environments has different issues that are problematic in MIS research.

Key Lessons:
There are many issues facing MIS in the international domain, some of which a manager can control and others that can not be controlled, but must be accounted for when planning a new system. A failure to consider the issues identified in the research will be problematic and risky.

Cautions:
As MIS becomes more complex and the international issues change, more research is necessary to determine if the framework and the ideas presented by the author is still relevant today.

Research Base:
A two-phase approach was used:

1. A list of the top international IS issues was created. 10 multinational IS managers and two consultants were interviewed and asked to analyze the list of issues for additions or deletions. Once the list was completed, the issues were sent to 342 U.S.-based manufacturing firms and 246 service to be ranked in order of importance
2. Extended telephone interviews were conducted with 26 of the MIS executives from Phase 1 after providing the respondents with a summary from the results of Phase 1.

Reference:
*MIS Research: A Model for Incorporating the International Dimension* by P. Candace Deans and David A. Ricks in **Journal of High Technology Management Research**, volume 2, pages 57-81, 1991.

**Article Title: "A Comparison of User Satisfaction with MIS Across Two Cultures"**

Summary:
Firms in Oregon and China were interviewed to determine the role of culture in user satisfaction. Many similarities existed between the two countries, but there were also differences, including users in China being less satisfied with their level of participation in the development process and a lack of understanding of the new system.

Value to Managers:
While developing an information system, developers need to realize that culture will play a role in the satisfaction with a new system. Nonetheless, despite the differences, users in all cultures need to participate in the development process in order for users to be satisfied with the new information system.

Description:
User satisfaction is one way to measure the success of an information system development. Users in China and Oregon were interviewed to determine the effects of culture on user satisfaction. The authors found that users in both countries were satisfied with their relationship with and attitude of the IT staff, accuracy, relevance, precision, and reliability of output. However, users in China were less satisfied with their level of participation than those in the offices in Oregon and thus were less satisfied with their understanding of the system.

Key Lessons:
Users in both countries were generally satisfied about the same things. The differences that existed in this study can be aided by MIS management enabling users to be more involved with the development process of the system.

Cautions:
While the differences exist between the two cultures, no causal link has been established between culture and the elements of user satisfaction. More research is necessary to determine why users in the two cultures differed on their levels of satisfaction.

Research Base:
A representative sample of small manufacturing firms was chosen in Oregon and China. Questionnaires were mailed out to 900 small manufacturing companies in the U.S. and 900 in China. The authors received responses from 102 companies in China and 109 in the U.S.

Reference:
*A Comparison of User Satisfaction with MIS Across Two Cultures* by William Harrison, Cheng-Kiang Farn, and James R. Coakley in **International Information Systems**, pages 89-98, 1992.

**Article Title: " Measuring Information Success at the Individual Level in Cross-Cultural Environments "**

**Summary**:
Measurement of variables that influence successful outcomes from information systems use is important. An instrument that measures information system success at the individual level, in cross-cultural environments, was developed and tested

**Value to Managers**:
Identification of the differential impact of variables on system success will help the manager formulate intervention strategies to improve system success in meeting the individual user's needs.

**Description**:
Information systems success will be reflected in measures of user satisfaction and user's perceptions of the quality of the information system. User participation and user involvement in the development of information systems, and the perception of the user regarding the changes in their equity status due to the implementation of the system were identified as the variables affecting information systems success. (User participation is the observable behavior component and user involvement is the attitude component of the user's role in systems development). A survey instrument was developed in English to measure these five variables. This questionnaire was also translated into French, Spanish, and Latvian and administered in United States, Canada, Mexico, China, and Latvia. The collected data were analyzed to check the reliability and validity of the instrument. Results of the analysis also provided implications for information systems design.

**Key Lessons**:
Global users of information systems need to be active participants in the development of information systems. Managers need to establish fair procedures for the allocation of information systems and these procedures must be perceived by the users as fair. The quality of a system and the information it provides to the user will impact the user's perception of the system.

**Cautions**:
The major limitation of this study is the narrowness of the sample in terms of its size. Within any one country, there may be several cultural groups that are not included in the sample. Hence the sample may not be representative of the total management population in a country.

**Research Base**:
A survey was administered to managers in United States, Canada, Mexico, China, and Latvia. These managers were alumni or participants in executive management programs at various universities in these countries.

**Reference**:
*Measuring Information Success at the Individual Level in Cross-Cultural Environments* by Michael D Ishman in **Information Resources Management Journal**, Fall 1996.

**Article Title: " Applications of Global Information Technology: Key Issues for Management"**

**Summary**:
This exploratory study both lays out a framework for examining global Information Systems (IS) issues from the perspective of the multinational firm's global IS manager and populates that framework with issues derived from interviews with 25 global IS managers.

**Value to Managers**:
The framework highlights four different aspects of global IS and uses anecdotes to illustrate issues in each of these categories. This article presents an excellent introduction to global IS.

**Description**:
Based on detailed interviews with IS executives charged with managing international IS, Ives and Jarvenpaa (1991) outline a global IS research agenda. They focus on four aspects of global IS (1) matching global IS strategy to global business strategy; (2) issues involving the technical platform for global IS applications; (3) issues involved in international sharing of data; and (4) issues of IS projects spanning cultures. This framework is presented from the perspective of a particular firm. Key issues that the IT management of a firm need to consider related to each of the four aspects have been identified. Not paying enough attention to these issues can impede a firm's ability to compete in the international arena. The most commonly mentioned challenges in the development of global applications for a firm were the determination of global versus local requirements and the maintenance of high levels of local user involvement and ownership.

**Key Lessons**:
Issues involving technical infrastructure available in different countries, control of data originating in different locations, and local culture should be considered when determining the global IT management approach.

**Cautions**:
This study was published in 1991. Changes in technology, especially in the area of communications, have caused changes in the way businesses operate.

**Research Base**:
Interviews were conducted with 25 senior managers responsible for the implementation of global applications of information technology in Fortune 500 industrial and service firms.

**Reference**:
*Applications of Global Information Technology: Key Issues for Management* by Blake Ives and Sirkka L Jarvenpaa in **MIS Quarterly**, March 1991

## Article Title: " Information Systems Design decisions in a Global versus Domestic Context"

**Summary**:
Focusing on the area of Information Technology (IT) distribution decision, the authors examine the differential impact on the domestic and global environment on IT management. As there is an increase in scope and quantity of factors relevant to IT decisions, the more there is a difference between domestic and global IT.

**Value to Managers**:
Key factors that transform the IT decisions in a global environment are the variety of global contexts, complexity due to increased number of factors relevant to making the IT decision and the level of familiarity of the project management with this variety and complexity.

**Description**:
A model of IT distribution decision was developed based on previous literature. The model postulates that there is constant interaction between managerial intents, organizational characteristics, external environmental characteristics, and IT decisions. Based on the model, factors affecting IT distribution decisions in the global environment were identified; these are communication and information processing requirements and power and control structures within the organization, and the economic conditions, the national cultures and the availability of the necessary technology in the environment in which the firm operates. Analysis of the collected data showed that internal factors dominated distribution decisions on the project level in both he global and domestic contexts, suggesting that the "domestic versus international" dimension is simply another parameter to be considered by IT management. However, project managers without global experience exhibited a narrower approach to the distribution process, considering only technical issues. Experienced managers recognized that globalization makes a difference to IT decisions because of the complexity and variety of IT related decisions and the familiarity of the manager with this complexity and variety.

**Key Lessons**:
Broadening project managers' views of the local development contexts is essential. Using a two-tier approach, project managers should first be sensitized to the existence of other working environments and the differences between these environments. When assigned to a project involving particular locations, further training, which concentrates on the factors that characterize those environments, should be offered

**Cautions**:
This study focused on global firms with a centralized IS function, in manufacturing industries. Data for the research were obtained from US based global managers. Thus, it might offer a limited perspective.

**Research Base**:
Interviews were conducted with 47 project managers (in 13 large firms). The managers also completed the Q-sort task, in which they rank-ordered various statements related to the IT distribution decision.

**Reference**:
*Information Systems Design decisions in a Global versus Domestic Context* by Noam Tractinsky and Sirkaa L Jarvenpaa in **MIS Quarterly**, December 1995

## Article Title: " Distributing Global Information System resources in Multinational Companies – A Contingency Model Distributing Global Information System resources in Multinational Companies – A Contingency Model"

**Summary**:
Location of decision-making varies among firms as they "internationalize" their business. The choice of structure affects Information Systems (IS) resource management as the IS structure should be aligned with the organizational structure, for the firm to perform its business activities successfully.

**Value to Managers**:
Business strategies, nature, and company philosophy differ among the firms with differing degrees of centralization. Identification of the organizational structure helps determine the IS structure appropriate for the firm.

**Description**:
The location of decision-making authority and the extent of centralization and decentralization in multinational firms can be used to define a continuum of structures that these firma nay adopt. At either ends of the continuum are the highly decentralized multi-domestic firms and the highly centralized global firms; the transnational firms anchor the center of this continuum. The determinants in the selection of these structures are business focus strategies, degree of diversification of the business, company philosophy, stability and political characteristics of the host environment and the organizational coordination costs. Besides these organizational factors, the general orientation of the IS function within the organization and the availability of IS resources in different locations determine whether the IS function should adopt a centralized or decentralized structure.

**Key Lessons**:
Misalignment of organizational structure with IS services may inhibit the transition of organizations from national to international operators.

**Cautions**:
While the arguments presented are theoretically well-developed, data from practice has not been collected and analyzed to substantiate the model.

**Research Base**:
This is a conceptual article presenting the authors' development of a model based on contingency theory.

**Reference**:
*Distributing Global Information System resources in Multinational Companies – A Contingency Model Distributing Global Information System resources in Multinational Companies – A Contingency Model* by H K Cheung and Janice M Burn in **Journal of Global Information Management**, Summer 1994.