

Guidelines For Planning A Multinational Accounting Information System

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ABSTRACT

The emphasis on globalization has affected numerous areas in business. In order to keep up with the growing trend toward globalization, multinational corporations have set up computerized accounting information systems with their affiliates to provide the accounting information needed to plan, control, evaluate and coordinate all business activities. To satisfy all the users' needs and government regulations in setting up a multinational accounting information system is a difficult task. This paper provides guidelines to be considered in planning a multinational accounting information system. A case study of an actual multinational information systems planning is used to illustrate the issues these guidelines address.

INTRODUCTION

The expansion of businesses into multinational operations and markets has increased business information needs. Many multinational corporations [MNCs] are establishing communication networks that link their geographically dispersed affiliates to their corporate headquarters. In designing these global information systems, diverse factors such as cultural, economic, technological, political, social, market and competitive features should be taken into consideration. This article provides guidelines to be considered in planning a multinational accounting information system [MAIS] in order to provide the accounting information that the MNC needs to plan, control, evaluate and coordinate all of its business activities.

Section II provides fourteen strategic factors that must be considered in planning a MAIS. Section III provides a case study of an actual MAIS planning and illustrates these strategic factors.

STRATEGIC FACTORS TO BE CONSIDERED

Management Style

A MAIS must meet the needs of its users, so the different management styles of the users must be taken into consideration in the planning of the information system. German managers are more conservative in decision making than most British managers, which makes German managers need more detailed information to make decisions [Gernon & Meek, 2001]. Besides noting the differences between the Germany and United Kingdom' management style, one will also observe inherent differences in style among the United States and Asian managers as well.

Cost Factors

The differences in the costs of labor, software, and hardware may render a particular system infeasible in some countries. These cost factors should be taken into consideration in the planning of a MAIS. In-house designed software programs generally tend to better satisfy the diverse needs of MNCs; however, they are also usually more expensive to develop and maintain than off-the-shelf software packages.

The costs of developing these software programs in different countries will vary. For example, payroll cost and other employee benefits are less in Asia than in the United States, so the development of in-house programs will generally be less expensive. Programmers in China, for example, usually make about one-tenth the amount of their American counterparts [Garner, 2004].

In Asia, hardware costs are also usually less than those in the United States. These cost differences arise from foreign exchange rate fluctuations, inflation rate differences, tariff regulations, higher overseas sales costs, higher local manufacturing costs, labor costs and government regulations.

One way of solving costs problem is to install hardware and software at places where costs are low and to have the other subsidiaries access this system and program. Although this will bring the costs of communication down, other problems may develop such as a breakdown of communication linkages. The local managers may need to monitor costs closely and report to the parent on any decisions that they may have made.

Availability of Products

The availability of hardware and software must be taken into consideration in the planning of a MAIS. Hardware and software may have to be brought in to some countries where the MNCs operate because of the lack of locally available sources. In addition, the unavailability or poor quality of telecommunications lines would certainly hinder the implementation of a global communications network.

Unions

Since unions can have a dramatic impact on the operations of MAISs, their existence must be taken into consideration. Although information systems in the United States have so far been free from the influence of powerful labor unions, many information systems employees in the United Kingdom, Germany, and France belong to militant trade unions that occasionally strike. The impact of these strikes on system development is dramatic. Therefore, strike contingency plans are often a necessity.

Ergonomics

Ergonomics is the consideration of human factors in the planning of systems. The use of video terminals in Europe is strictly regulated and monitored by unions. For example, at Phillip Morris' European operations, half of all terminals are four-color units, which are believed to help reduce eyestrain [see Freedman, 1985]. As ergonomic considerations are taken more seriously, the planning of MAIS must take ergonomics into consideration.

Increasing Interdependence

The increasing interdependence of a multinational's affiliates must be taken into consideration in the planning of global information systems. This has become particularly important after the opening of Europe's national borders in 1993 and the increasing membership size of the World Trade Organization. As affiliates become increasingly interdependent, information systems across country lines must become integrated to avoid miscommunication among managers in different countries.

Technology Trends

As the sophistication and availability of technology differs among the various countries in which MNCs operate, technology trends must be taken into consideration in the planning of MAISs [see Earl, Feeny, Lockett and Punge, 1988; Gernon and Meek, 2001]. The implementation of an accounting information system in a country that lacks the necessary technology will obviously be difficult and expensive, if not impossible.

Language

As businesses become more globally oriented, the need for translation of documents, manuals, contracts and various other texts increases. After all, the success of an information system depends on its ability to provide the user understandable information. The inability of foreign managers to understand the language in which the information is presented will obviously destroy the purpose of the MAIS, though emerging computer technology may help reduce this obstacle through machine translators [see Yang, 1990; Rayner, Carter, Bouillon, Digalakis & Wiren, 2000].

Hostile Environments

For companies that are operating in a foreign country, there is always a fear that the government may take over and nationalize the firm. Political risk should be considered in planning a MAIS. There are chances that a friendly country may become hostile because of some unfavorable event such as the 1990 Gulf crisis in the Middle East. When MNCs consider linking each affiliate, they should take the political climate into system planning consideration before investing more capital resources.

Legislative and Legal Developments

Knowledge of the application of the laws of the various countries in which a MNC operates is also important. Many countries have passed laws against the improper use of personal data. Two examples in the United States are the Freedom of Information Act and Fair Credit Reporting Act [see Chalmers, 1988]. In Europe, countries with data protection legislation do not allow name-linked data to be transmitted outside national boundaries unless the governments are satisfied that the laws of the receiving country are in harmony with their own [see Buss, 1982]. Many U.S. managers feel that such laws are excessive because they stand in the way of centralization of data. Furthermore, some countries do not mind the transmission of data into the country, but they oppose interactive applications in which data can be transmitted out.

New legislative and legal developments regarding corporate recordkeeping and the flow of information across national boundaries shape the use and direction of information processing. The Foreign Corrupt Practices Act of 1977, for example, includes provisions that require companies that are registered with the Securities and Exchange Commission to keep books, records and accounts that accurately and fairly reflect the transactions and disposition of the company's assets. The Act also requires these companies to devise and maintain a system of internal controls. Because these restraints apply to both the parent and its affiliates, MNCs with computerized recordkeeping systems will therefore need to scrutinize their affiliate's information systems more closely.

Standards

Standards of conducting business vary in different countries. No singular set of accounting standards exists to which all countries adhere. Even basic financial presentation, such as the classification of balance sheet and income statement accounts, is different in some countries. This could introduce difficulties for the MNCs that are trying to build their MAISs.

An MNC firm needs to study which standards, rules and procedures to incorporate into its system from both the corporate headquarters country and the affiliate country in order to meet the needs of internal management reports and external financial disclosures. Although an MNC may need to consider a greater number of factors while planning a system useful for external reporting needs, it may have fewer factors to consider while planning the internal reporting system.

International organizations, such as the International Accounting Standards Board, the United Nations, and the International Organization of Securities Commissions, are concerned with the comparability of financial reporting information [see Saudagaran, 2001]. Presently, information system people will still have to adapt to different countries' standards for different subsidiaries.

Training and Education

Since the success of a MAIS depends on the ability of its users to operate it, training must be considered in the planning of the system. Without proper training, even the most sophisticated accounting information systems would be useless. For example, retraining may be necessary for those employees who are affected by the conversion to a new information processing system. In addition, small affiliates that lack in-house resources would obviously need technical support. Therefore, technical support personnel would need to be brought into these countries. Zacchea (1988) lists nine characteristics that can help contribute to success in overseas work: source of motivation, vitality and spirit, energy, interpersonal skills, personality, marital status, family status, flexibility and capacity.

Personnel

Since the existence of limitations on the nationality of personnel can affect the successful operation of MAISs, the personnel factor must be taken into consideration in the planning of global information systems. For example, the existence of limitations on the nationality of affiliate personnel can mean that otherwise technically qualified individuals will not be able to provide the expertise and experience that is desperately needed in the affiliate operations.

Stages of Maturity of Regional Offices

Regional offices that are large and relatively experienced in data processing will obviously need to be handled differently from those that are medium-sized and inexperienced in data processing. The very different stages of maturity of regional offices may also make the planning of a global information system unwise since standardization of the network would probably be impossible.

A CASE STUDY OF A MNC

In this study, we present a case of a MNC that has manufacturing facilities in two Asian countries and one European country. Most of the marketing of this MNC is done in the United States. This MNC, hereafter called A&A, has sales volume of more than 1 billion dollars. A&A controls around 50 percent of the worldwide market of its products and services. A&A employees number around 10,000. A&A has raised capital in Europe and the U.S. to further expand its operations. Presently, some international investment companies participate in A&A's equity.

Management Style

In A&A, since most of the marketing is done in the U.S., top U.S. management is closely involved in approving capital investment when the capital investment exceeds predetermined amounts. This procedure has created some anti-U.S. sentiment among the affiliates. However, increased communication with the affiliate offices has made all managers at A&A begin to understand the necessity of working towards a common goal.

Cost Factors

Local programmers provide most of the regional programming needs. However, a project requires standardization among factories. The headquarters of Information, Communication & Systems (IC&S) oversees project coordination and allocation of resources. To reduce the programming costs, they plan to open a development house in a third country where the development costs are lower.

Increasing Interdependence

In A&A, the interdependence of data is becoming an increasingly critical issue, especially for serving customers. A&A allows their customers to have access to a wide variety of information, such as manufacturing data, inventory status of supplied materials, work-in-process data, and shipping data at any time. This requires the sales division and factory to update data continually and accurately. Unfortunately, such human intervention is bound to lead to some data

inaccuracies. Furthermore, when customers see an error in the computer printouts, they lose confidence in all of the data generated from the computer system. They start to request personal reports aside from the regular computer printouts. As this parallel reporting pattern becomes more customary, people start to build personal databases in localized personal computers aside from the main computer databases.

Technology Trends

A&A has used an international telecommunication leased line since 1985. With the introduction of a new technology, A&A has been able to significantly improve communication efficiency and reduce the cost of information transmissions. In 1985, the speed of the line was just 2.4K BPS for data exchange only. Now A&A is using two 56K BPS for voice and fax, in addition to transferring data between sales divisions and factory sites. Interestingly, in one of the countries where factories are located, the company is not able to utilize the network to its full capacity. The local government there has been slow in improving the line quality to 56K BPS within the country. This actually creates a bottleneck for the entire network's efficiency. By comparison, within the U.S., the company uses a T-1 (1.54 Mega BPS) line among sales offices for data, voice, fax, and video conference.

Language

Language barriers have created problems for A&A in its ability to upgrade its systems at the same time at different locations. This is particularly true in the area of software adoption. For example, even when software products with a foreign language option are available for the affiliate's country there are difficulties. It usually takes at least six months to two years for full compatibility between English and a foreign language version.

Hostile Environments

Hostile environments are not an exemption for A&A. In one of the countries where A&A is operating, extreme union members have physically attacked the MAIS system, even though the system has been securely guarded most of the time.

Training and Education

Currently, A&A sends its employees to a third party organization for external education to improve their skills and to broaden the expertise of their programmers.

Personnel

In A&A, the director and high-level managers for the IC&S meet regularly to discuss common company-wide issues, such as setting the procedure for changing a database. Low-level managers also get together, for instance, to make a detailed plan for program development. A&A also exchanges programmers between the two countries where most of the heavy transaction occurs. By exchanging them for three to six month periods, the company appears to have achieved improved and easier communication.

Stage of Maturity of Regional Offices

A&A has found a unique approach to avoid the possibility of a bottleneck created by different stages of maturity. The company trains its sales and manufacturing employees with an artificial intelligence program, which has been developed internally. New hires trained by this package appear to acquire the necessary skills very quickly. This training eliminates the maturity problem among regional offices in the areas of handling sales issues and inputting manufacturing data by workers.

CONCLUSION

In planning a MAIS there are many factors to be considered. This paper summarizes and discusses factors ranging from management style to language issues. Planning a MAIS is a very difficult task because the users, planners, executives and others associated in operating global accounting information systems are all different. However, an effective MAIS will definitely provide its owners with a competitive advantage in this increasingly competitive global environment.

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