

December 1999

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Recommended Citation

Liao, Chechen and Hsu, Yun-Ting, "Investigating the Effects of TBDF Regulations on Multinational Firms' Operation" (1999).
AMCIS 1999 Proceedings. 101.
<http://aisel.aisnet.org/amcis1999/101>

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Investigating the Effects of TBDF Regulations on Multinational Firms' Operation

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Abstract

The far advance in computer and telecommunication technology, and the evolution of Multinational corporations (MNCs) have led to an era of global economy. While MNCs strive for competitive advantage via their global information systems, diverse barriers on transborder data flow (TBDF) work in the opposite direction. Many researchers indicated that TBDF restrictions not only affected the operation of MNCs, but also the management of international information systems. Some others argued that transborder data laws were either found too vague to follow, or unable to seriously hamper some MNCs due to their smooth relationship with local telecommunication authorities at host countries. This paper aims to investigate the context and causes of the discrepancy. The results indicated that vendor's support, deregulation of telecommunication restrictions, and the areas in which MNCs operated accounted for the discrepancy and thus alleviated the impact of TBDF regulations on MNCs' operation.

Introduction

Transborder data flow (TBDF) has received publicized attention from business, nations, academy and international organizations (Kane and Ricks, 1989; Saraswat and Gorgone, 1993; Lai and Floyd, 1998). This trend results from the combination of two parallel developments: the far advance in telecommunications and computer technology, and the evolution of multinational corporations (MNCs) (Deans and Kane, 1992). While MNCs strive for competitive advantages via their global information systems, diverse barriers on TBDF work in the opposite direction. TBDF carries financial and operating information across the international borders and is frequently impeded by local government regulations due to various privacy, economic and political reasons (McCrohan and Lowe, 1988; Wang, 1993).

Many researchers indicated that TBDF restrictions not only affected the operation of MNCs, but also influenced the management of international information systems, network, and data communication (e.g. Sambharya and Phatak, 1990; Lai and Floyd, 1998; Steinbart and Nath, 1992; Palvia and Saraswat, 1990). However, some others argued that transborder data laws were either found too vague to follow, or not being able to seriously hamper some MNCs, which have smooth relationship with local

telecommunication authorities at host countries (e.g. Terry et al, 1994; Stuck and Schroeder, 1994; Kane and Ricks, 1989; Ives and Jarvenpaa, 1991). The discrepancy revealed above, accompanied with the current trend of telecommunication deregulation and the arising prosperity of international network carriers, have promoted the need for a deeper investigation of the impact of TBDF regulations on the operation of MNCs and the management of their global information systems (GIS). This paper attempts to investigate the discrepancy mentioned above in terms of the effects of TBDF regulations on the operation of MNCs and the management of their GIS. The paper also wants to reveal the relative importance of the TBDF regulations and the strategies that MNCs used for dealing with TBDF regulations.

Literature Review

The most formal and accepted definition of TBDF is "movements of machine-readable data for processing, storage, or retrieval across national boundaries", which was first used by the United Nations Center on Transnational Corporations (UNCTC) (Chandran et al., 1987; Deans and Kane, 1992). The content of TBDF within MNCs generally falls in several categories: financial and accounting, marketing/sales/distribution, general management, production/manufacture, research & development, and personnel (Stuck and Schroeder, 1994; Liao and Hsu, 1998).

The regulations of TBDF reflect to three issues: privacy, political, and economic (Wang, 1993; Kane and Ricks, 1989; Buss, 1984). Privacy issue concerns the abuse and misuse of electronic personally identifiable data. Political issue involves limited access to national resources, development plans and national security. Economic issue refers to various measures that local government adopted to protect their information industry or PTT (Post, Telephone, and Telegraph) agency. It was privacy issue that raised most debates. Both developed and developing countries have past and adopted various kinds of individual privacy or data protection legislation to enact the protection of personal information in the internet (Oz, 1995; Liao and Hsu, 1998). Economic barriers, on the other hand, were considered to be the most important TBDF regulations by MNCs (Sambharya and Phatak, 1990). These barriers limited or denied MNCs to lease private circuits in flat rate, or forced

MNCs to purchase locally produced hardware and software with inconsistent standards to their original Information systems configuration (Wang, 1993).

Although modern technology has provided the means for timely and efficient transmission of information to any place on earth, the impediments to information quality and translating it into more effective management decisions remain (Wang, 1993). Several successful strategies have been adopted by MNCs to deal with TBDF barriers, which include reorganization of data processing, remote computing services, data reduction, data and systems duplication, and alternative information channels (Kane and Ricks, 1989).

Research Methodology

Case study was regarded as a good strategy for data collection in this study since TBDF involves a fast changing and complex environment of business, political, legal, and telecommunication. The method of agreement and difference, proposed by John Stuart Mill, was also employed for data analysis. This method was applied to understand how a given phenomenon happened, and why it happened, besides discovering the status and characteristics of the phenomenon (Yang et al., 1975; Cooper and Emory, 1995).

Five MNCs were selected for the study. They are two Taiwan-based MNCs, two subsidiaries of U.S.-based MNCs and one famous airline company, which were all ranked within top 20 in Taiwan. The data were collected from available documents, archival records, scheduled and planned interviews, direct observations. All the interviews were progressed according to the questionnaire predesigned. The questionnaire includes five major parts: TBDF regulations, the impact of TBDF regulations on GIS activities, the effects of TBDF regulations on organization's decision-making via GIS, and GIS structure and some demography of subject companies.

Findings

Proposition 1• Industry makes difference

High-tech companies tend to invest more money in GIS and to solve the TBDF problems by utilizing the newest technology. On the other hand, traditional manufacturing companies without much concept of IT tends to spend limited funding in communication network integration and planning.

Proposition 2• Vendors take care of the TBDF barriers for MNCs

Several Interviewees indicated that international telecommunication carriers, such as AT&T, BT, GlobalOne, should take care of various telecommunication regulations in different countries. What MNCs need to do is looking for the appropriate vendor who can provide the best services.

Proposition 3• Different barriers between developing and developed countries.

The TBDF barriers affecting MNCs' operation in Europe and America were not quite the same as those in Asia. Most MNCs suffered from telecommunication-related laws in Asian-pacific region, of which are most developing countries. Meanwhile, they had to deal with data protection and privacy laws in European and Canada, of which are most developed countries.

Proposition 4• Discrepancy

Arising support from vendors and deregulation of telecommunication restrictions in different countries have removed a lot of TBDF barriers in international data transmission, and thus alleviated the impact of TBDF regulations on MNCs' operation. The two trends account for the discrepancy found in the prior literature.

Proposition 5• Organizational culture makes difference

The differences of emphasis on IT resulted from organizational culture may affect higher managers' perceptions of the impact of TBDF regulations on MNCs and their strategic decision-making regarding GIS.

Proposition 6• Airway companies

Since SITA (Societe Internationale de Telecommunications Aeronautiques) is responsible for the network-connection configurations for most airway companies, the international data transmission of airway company has not been affected by general TBDF regulations.

Proposition 7• Strategy

In developing countries, barriers resulting from TBDF regulations might be overcome by special relationship between MNCs and local government officers. Meanwhile, in order to stimulate local business development, a lot of developing countries have provided MNCs some privileges for them to invest or to operate.

Proposition 8: GIS Decision-Making

According to the interviewees, the most significant impacts of TBDF regulations on MNC's GIS decision-making are divided as follow: (1) Strategic: the location setting of regional data center (2) Tactical: the integration of network, GIS and computer resource; the construction

of GIS; development of GIS staff (3) Operational: Acquisition of GIS resource; minimization of GIS costs.

Proposition 9: MNCs' Decision-Making

According to the interviewees, the most significant impacts of TBDF regulations on MNC's decision-making were as following: (1) Strategic: mode of going international (licensing, Joint Venture, etc); analyzing foreign investments; evaluating international operations (2) Administrative: new product introduction (3) Operational: frequency of financial reports from subsidiaries to HQ; appointment of key data processing Personnel to Subsidiaries.

Conclusion and Future Direction

Telecommunication limitation, instead of data protection regulation, is the most common problem that MNCs confront in Asia-pacific Area. Centralized and integrated GIS indeed brought MNCs amazing efficiency and benefits. But MNCs with centralized and integrated GIS also suffered from TBDF regulations most. MNCs operating at Asian-Pacific area have to watch if host countries head for data protection regulation, which is the current focus in developed countries in Europe. Meanwhile, economic barriers were still found to be the most influential TBDF regulations on the operation of MNCs. The most common strategy that MNCs adopted to deal with TBDF barriers is utilizing vendors' support. Future research may investigate the similarities and differences in the effect of TBDF barriers on MNCs' operation within the same industry or different industry.

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