A Comparison of Foreign Government Computing Policies

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This article examines the use of information technology (IT) by government administrators in selected developed countries. By highlighting IT use by government administrators in five European countries emerging IT trends are described and modeled so that they may be generalized with regard to their effects on public administration around the globe. Two dominant issues that directly influence public policy-making—cooperation and coordination—will serve as the conceptual framework for this article. Cooperation, within Finland, as well as both within and beyond the national borders of Denmark and Portugal will be examined. Then, the decentralization of coordination underway in Denmark, Northern Ireland, and Switzerland will be described. In each case, the domestic and global needs of the administrative users are shown to be satisfied by the capabilities of IT in strengthening coordination and cooperation. For the purposes of this paper the operational definition of cooperation will refer to the action, by any government ministry, which makes IT resources available to other ministries in order to facilitate the act of harmonization on a government-wide basis. Similarly, the operational definition of coordination (either centralized or decentralized) will refer to action by a central agency that consists of governing, directing, controlling in order to facilitate IT performance (usually cost/benefit) on a government ministry wide basis.

The global issues associated with IT use in advanced and developing nations have been addressed by many researchers, of which Palvia et al. (1992) and Verstraete (1992) are representative. Other contemporary researchers have taken a more regiocentric approach to focus their exploration of the international perspectives associated with IT. Among the linkages between IT topics and geographic regions already discussed are: network connectivity in developing countries (Sadowsky 1993), computing in the Middle East (Goodman & Green 1992), IT in Africa (Janczewski 1992, Odedra et al. 1993, Goodman 1994), Latin American telecommunications (Willey 1992), and computing in India (Nidumolu & Goodman 1993, Dhir 1992). These studies are, at best, tangentially related to the issue of national IT policy creation and implementation. What has been overlooked until now is an appropriate consideration of government administrators in developed countries as users of IT and how their usage habits may affect policy decisions.

King and Sethi (1992) explain that a major issue for national governments has been the regulatory adjustment required by the convergence of computer and communication technologies. And, as suggested by Palvia et al. (1992), the developed nations are primarily concerned with strategic issues, rather than operational or infrastructure problems that concern developing and under-developed nations, respectively. We found support for this contention in two major areas of concern expressed by IT policy makers in the foreign government administrations in a sample of developed European countries.

The catalyst for this paper was the opportunity to participate in the International Council for Technology in Government Administration’s (ICA) twenty-sixth conference in Jerusalem, Israel. The subject of the conference was IT Coordination and Cooperation—Policies, Strategies and Application. ICA was founded in the early 1960s with the aim of promoting an informal exchange of knowledge, ideas and experience among central government authorities responsible for the development of policy on the use of IT in their
administrations. An important aspect of the ICA conference is that the size of a country is not an important issue, only the commonality of IT issues and problems.

The current membership of twenty-one countries provides a good international mix with delegates from the United States as well as from Europe, including the Scandinavian countries. In addition to an annual conference held each year in a different country, small international study groups meet to consider specific topics in greater depth. All of the countries had interesting thoughts and plans on how IT affected their governments and how it will affect the future. Due to space limitations, this paper will provide only a representative sample of the IT policies of the ICA member countries.

One area of concern is that independent national action has raised the specter of incompatible safety structures, regulations, policies, standards, and procedures. With the possible exception of simple communication webs such as the Internet, complex mission-critical IT systems require standardization as an essential prerequisite for successful development and safe, reliable implementation. Cooperation is the sine qua non of standardization and furthermore, is needed for the emergence of trustworthy IT-enabled networks to support applications that span national boundaries. Although closed IT systems can be quite secure and reliable, the same cannot be said about open, loosely networked systems that may proliferate as a significant share of nations’ information resources are transferred to an electronic medium. Pietarinen (1992) contends that this issue and the related issue of legal standards have only recently been addressed as problems by the European Community. He suggests that the impetus for this issue be the substitution of paper-based commercial, administrative and private communication procedures with IT-enabled systems that rely on electronic means. For this transformation to take place, the new procedures have to be perceived by users as at least as trustworthy as the old.

A second issue is somewhat more ethnocentric--centralization or decentralization of domestic, national IT policy making for effective control, regulation and coordination. Regardless of whether an entity is a public ministry or a private corporation, the implementation of IT can only be successful if it is adapted to the organizational structure of the entity. Beyond the technological and economic imperatives to change from mainframes to microcomputers, foreign government administrations also seek to create streamlined organizations that are more responsive to users needs.

Expanding on the dictionary definition, for the purposes of this paper the operational definition of cooperation will refer to the action, by any government ministry, which makes IT resources available to other ministries in order to facilitate the act of harmonization on a government-wide basis. Similarly, the operational definition of coordination (either centralized or decentralized) will refer to action by a central agency that consists of governing, directing, controlling in order to facilitate IT performance (usually cost/benefit) on a government ministry wide basis.

These two issues, cooperation and coordination--identified by the ICA as a common concern among member countries—will serve as the framework for all subsequent discussion. The model will be used as a visual aid to concisely recap the textual discussion. Cooperation, within Finland, as well as both within and beyond the national borders of Denmark and Portugal will be examined. Then, the decentralization of coordination efforts underway in Denmark, Northern Ireland, and Switzerland will be described. In each case, the domestic and global needs of the users are shown to be satisfied by the capabilities of IT. Pietarinen (1992) contends that there is a disturbing lack of agreement on IT issues in the European Community. Nevertheless, the five European countries discussed in the next sections provide examples of successful efforts to improve cooperation and decentralize coordination.

Cooperation

Clemons (1993) discusses the global implications of increased cooperation and the critical ability of IT in moderation of the hazards inherent in global cooperative efforts. As illustrated by the following discussion of Denmark, IT facilitates monitoring, problem detection and rapid corrective responses.

Denmark

Sandbech (1992), Director General of the National Environmental Research Institute (NERI) in Denmark cites transborder pollution (e.g., the Rhine River and Baltic Sea) and the resulting economic consequences as the impetus for international cooperation on environmental protection. Consequently, Denmark has taken a big step forward in promoting international cooperation, both within and outside the European Community. As a result of a nitrate-concentration threat to domestic ground water supplies, Denmark gained considerable experience in the creation of a highly developed decentralized system for environmental monitoring combined with a centralized data transfer and collation under the auspices of NERI. From this experience base, Denmark is actively collaborating in establishing a structure similar to that now envisioned for all of Europe, a pilot project designated ENVIRONET (Environmental Network) involving the European Environment Agency. Actually, this is only one of thirteen projects, collectively referred to as the European Nervous System, which is a European Community program in the field of telematic systems such as health care, transport, social security, tax and environment.

ENVIRONET is being developed jointly by nine European telematics companies: Siemens Nixdorf Informationsysteme (Germany), Bull, Syseca and France Cables and Radio (France), Da Vinci Consulting (Belgium), Telespazio and Olivetti (Italy), Athens Technology Center (Greece), and Datacentralen (Denmark). The main objective of the project is to undertake a feasibility study to be used in the development of a standard model for environmental telematic services. The
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