December 1995

Information Technology, Telecommunications, and Globalization of Services Production

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Recommended Citation

Wilson, Mark, "Information Technology, Telecommunications, and Globalization of Services Production" (1995). *PACIS 1995 Proceedings*. 27.
http://aisel.aisnet.org/pacis1995/27

Shifting Organisational Boundaries using Information Technology

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Shifting Boundaries in Systems Engineering

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Abstract

Many issues in society and organizations nowadays can be characterized as turbulent and hostile. In this dynamic chaos, simulation based inquiry systems can increase the problem solving capabilities that are required to meet these. Many problems in and between organizations in the private and public sector are caused by bottlenecks in networks, or arrangements of actors, in which these organizations take part.

Early diagnosing these problems is the basis for the generation and exploration of solution paths for the actors involved. Support for problem understanding and for creating an acceptance base is a key requirement. An effective framework for inquiry distinguishes systems engineering, management control and policy setting issues analyzed at macro, meso and micro level.

Numerous research projects have shown that personalized network based inquiry systems can provide an effective vehicle for shaping our networked society. Guiding principles that can be formulated on this empirical base are: (a) investments, initiated and stimulated by 'network thinking' must be earned at the working place; (b) current political and societal standards appear to favour achievement; production is paramount, but is awkward if starting points are not given; (c) problems in society and business can be solved with a variety of tools. Tools for decision support are significantly more effective if they are directly related to the problem solving steps; and (d) more information does not necessarily lead to better decisions.

In view of these experiences, an approach that uses 'virtual' environments, enabled by 'Pervasive computing'. It supports modeling from various perspectives, angles and actors at various levels, in various qualitative and quantitative modes, in the activities of specification, verification, validation, screening, experimental design, decision making and implementation.

Various examples in information technology, telecommunication technology, logistics etc., make clear that the virtue of systems engineering lies in the understanding that 'management is controlled chaos'. It indicates that simulation based systems engineering can contribute to the challenges in our chaotic society.

Information Technology, Telecommunications, and the Globalization of Services Production

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Abstract

The routinization and mass production of services, combined with the spatial flexibility afforded by information technology and telecommunications, is changing the structure and location pattern of the telecommunications, is changing the structure and location pattern of the service economy. Basic services and

information processing are increasingly performed away from high cost corporate headquarters in North America, Europe, Asia, and placed in low cost offshore locations.

Offshore back offices are unique in that their location is determined not by a desire to serve overseas, but for their ability to serve internal corporate needs. Advanced telecommunications serve as a vehicle for firms to access low cost labor in the Caribbean, Asia, and Ireland for the production of back office services. Offshore offices offer considerable cost saving of one third to one half over domestic costs, with additional benefits of policy incentives offered by governments eager to generate employment and economic development.

This paper addresses how the alliance of information technology and telecommunications is redefining the spatial patterns of global services. For example, US firms processing insurance claims electronically in Ireland, data processing in Jamaica for the North American market; or Asian and European airlines developing software in India. The three stages of the paper are: first, discussion of global telecommunication cost space and presentation of maps illustrating how the world appears based on telecommunication costs rather than distance. Second, firm decision making and the factors that determine offshore production. Finally, discussion of the role of government in location decisions, both in term of infrastructure development and location incentives for firms. Data for the paper were collected through interviews with service firms, telecommunication carriers, and government agencies in North America, the Caribbean, Europe and Asia.