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Abstract

Traditional general systems theory concepts, such as self-emergence and supercritical systems, have been augmented by new concepts from computer models developed at the Santa Fe Institute under the banner of Complexity Theory: co-evolutionary fitness landscapes, order parameter, automata phase changes, lock in, and others. This paper is the first publishing of practical applications of Complexity Theory to improve management systems and behaviors of general relevance. Four different applications of a Social Cellular Automata Process, that socially implements self emergence dynamics that appear in computer cellular automata, are reported herein. This paper first presents a Social Movement Theory of business management, grounded in 64 transformations that most of the world's largest businesses have implemented in the late 1980s and early 1990s. Both the means and ends of management have increasingly become movement building. Next, this paper finds 4 primary transformations that, when combined, constitute the 64 transformations that are widespread in business. Those 4 primary transformations are grounded in a "social" cellular automata model of business processes. Applications of the Social Cellular Automata Process that results, to re-engineer a large salesforce, revise political campaign methods, deploy high technologies to General Motors, and create a Global Quality movement out of what is today the Total Quality movement are described in some detail.

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ジェームス E. カッツ James E. Katz
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Title

Social Consequences of Wireless Communications: A Selective Analysis of Residential and Business Sectors in the United States

Abstract

While much effort has been directed towards predicting the potential market for mobile personal communication technologies, little prospective analysis has been devoted to how these technologies are likely to change the way people live their lives and the way businesses and other organizations will operate. In this paper, I systematically explore these questions by presenting not only case study information and qualitative data, but the results of national surveys as well. Among the topics examined for residential users are the readily recognizable effects of increases in convenience, personal efficiency, and security, as well as more subtle effects, particularly in the psychological and interpersonal realm. In the area of work-life, I discuss topics of control of organizational and manpower resources and competitive advantages the technology seems to offer. Significant attention is also devoted to how these technologies are likely to affect business operations as wireless communication becomes cheaper and more powerful. Particular structures are identified which are likely to help organizations thrive in an environment characterized by increased competition and information flows. The analysis concludes with recommendations for organizational adaptations to take advantage of these burgeoning technologies.

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Title

A Potential Nutritional and Household Economic Role for Integrated Agriculture-Aquaculture in Rural Africa: the Case of Ghana

Abstract

Small-scale freshwater aquaculture has been widely accepted by policymakers as a effective means of improving small-farm household nutrition and economies. However, despite a long and widespread history of failure in Africa, there has been little attempt to evaluate the potential of aquaculture – especially integrated systems of agriculture-aquaculture (IAA)– in rural development. An evaluation was conducted on the potential impact of the introduction of IAA into existing farming systems on household nutrition and cash incomes in the Deciduous and Rainforest, Transition and Guinea Savanna ecological zones of Ghana. The fish culture component is small-scale and based on extensive or semi-intensive pond systems. Farming systems were modeled with simple bioeconomic spreadsheets based on existing and actually measured information. The results demonstrate that the addition of a vegetable field and pond to modeled farming systems could directly improve household nutrition, and an indirect effect could be achieved through a considerable increase in household cash income. Based on an analysis of protein, carbohydrate, proximate minerals, and vitamin content of the food items, nutrient levels are marginally improved by the addition of a pond and vegetable field, whereas vitamin supply is significantly increased. In the 14 farming systems modeled, household cash incomes improved between 229 and 679%. However, most of this improvement is attributable to vegetable production, whereas cultured fish contributed only 2-4%, depending on pond size. The planned role of farm ponds in rural development should be expanded from that of mere "fish ponds" to exploit their fuller ecological potential.

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Title

The Reappraisal of the Neutral Money Policy

Abstract

When the exchange rate is volatile, the price level is strongly affected by the changes of the prices of the imported goods. In this paper, we will show that the neutral money should be adopted instead of the stable money as an object of a monetary policy in this case. We will also show that a target of a monetary policy should still be the price stability. This discrepancy of the object and the target comes from the time lag of the monetary policy.

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Title

Organic Dynamic of International Organizations: the Case of IOC of UNESCO

Abstract

In most international organizations, their principal organs are authorized to establish such subsidiary organs as may be found necessary for the accomplishment of their functions, and thus their structure is adaptable to the variable needs of international community. This paper analyzes the structural problems related to subsidiary organs, using the example of the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO). Established in 1960 within Unesco by its General Conference, IOC presents some structural characteristics which differ from those of ordinary subsidiary organs. Issues concerning the membership and internal construction of subsidiary organs are reviewed, in order to outline the Commission and its relationship with Unesco. To conclude, organic dynamism of international organizations is appraised with reference to the case of IOC, which is a “potentially plenary” organ with a complex structure.
Abstract
Space application activities, particularly in the field of remote sensing, have been intensified in many countries of the ESCAP region since the 1980’s to cope with the regional environmental and resources problems. During the 1980’s and 1990’s, Japan also engaged in earth observation activities by developing its own remote sensing satellites, namely MOS-1, MOS-1B, JERS-1, and ADEOS. Although these Japanese projects contributed to indigenous technological development, they created various problems which are closely related to Japan’s space development policies, which have been oriented toward technology push rather than applications pull. In order to mitigate these problems, a number of alternative space development policies, which would reflect the real needs of the space application users, are proposed.

Special Articles

Author: 鈴木 賢 Minoru Suzuki
Title: 日本の地域政策と空間開発活動 —— と特別の参照を遥感活動——
Abstract: 空間開発活動、特にテレソーシングに於て、地球の多くの国々において強化されており、地域環境問題を解決する手段として利用されている。1980年代と1990年代の日本も自国のテレソーシング衛星を製造、運用している。これらのプロジェクトは地域の技術開発に寄与したが、新たな問題を生じた。これらの問題を解決するための代替の開発政策が提案されている。

Author: 福井 治弘 Haruhiro Fukui
Title: 地方政治と公的関心
Abstract: 本論文は地方のLocal Politics and the Public Interest in Japanを扱っているが、特にその緊迫性と脆弱性について論じている。地方政治は公的関心を示すために、地方コミュニティの状況と地方政治の緊張を議論する。