The Convergence of Cyberspace and Sustainability

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Introduction[1]

This paper highlights the emerging synergy between cyberspace (a new arena of interaction) and sustainability (a new initiative on the global agenda), and their convergence on the global policy agenda. This convergence is at the conjunction of two processes, the growing pressures for transitions toward sustainability in the real context of human interactions; and the expanded, cyber-enabled opportunities for the pursuit of goals and objectives. This convergence, unexpected as it was, is a result mainly of the properties of cyberspace as we know it and those of sustainability as we seek to frame it. Reinforced by the role of knowledge in international forums, both cyberspace and sustainability are relative newcomers to international relations theory, policy, and practice.

The Logic for Synergy

The logic for signaling the synergy between cyberspace and sustainability can be described in the terms of inquiry in John Seely Brown and Paul Duguid's (2000) *The Social Life of Information* (2000). Brown and Duguid identify six forces unleashed by advances in information technology (IT)—demassification, decentralization, denationalization, despatialization, disintermediation, and disaggregation—which they consider to be fundamental correlates of cyber venues that altered the social fabric in new and powerful ways. Brown and Druid argue that these forces, we call them here the "6 D's," are critical and distinct properties of the cyber context. Although they do not address growth, development, or sustainability, these same forces are central to the nascent domain of sustainable development. At the very least, massification, materialization, spatialization, and centralization reinforce the ways in which human beings continue to overextend and damage the natural environment. None of these is done intentionally of course; rather, it is largely the by-product of routine human activities.

To illustrate the synergy argument, we turn to Table 1, introduced in Choucri (forthcoming) to show four cases across two issues, cyber access and sustainability. The entries in the quadrants show situations in policy and practice as well as different modalities of the synergy. In principle, we anticipate that development strategies in the twenty-first century will increasingly shift away from the bottom left quadrant and toward the top right quadrant. This would happen only if we can reduce the major barriers to cyber access, on the one hand, and to accept sustainable development as the dominant paradigm in economic and political contexts on the other. Of course, it would also be dependent on the continued convergence of cyberspace and sustainability, which are two independent processes with no obvious common origins.

This connection reinforces and is reinforced by the Millennium Development Goals promulgated by the United Nations.

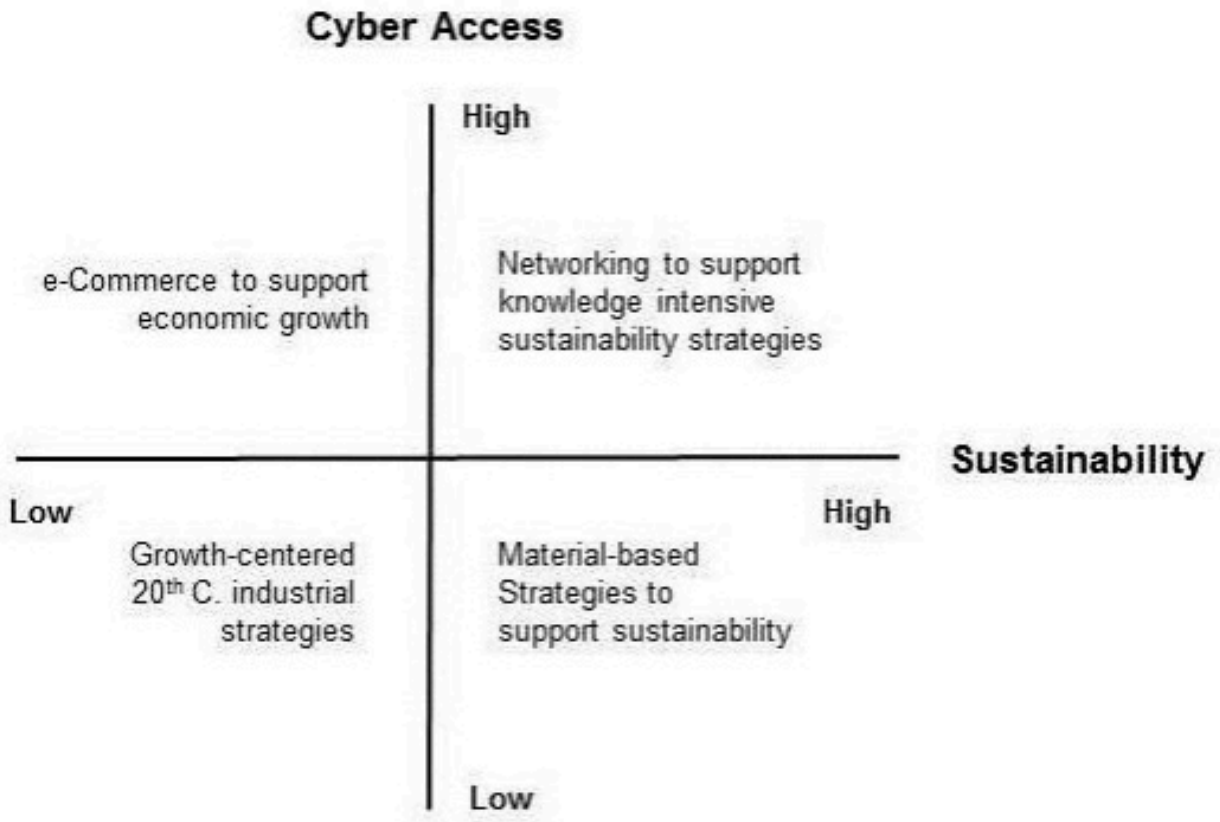

Table 1
Illustrating Synergy

Source: Nazli Choucri, *Cyberpolitics in International Relations*. Cambridge, MA: The MIT Press. Forthcoming.

The WSIS was convened in large part to bring information technologies and cyber functionalities to bear on the challenges of development, specifically strategies to reduce poverty. The conference became a major landmark in the establishment of global accord, and with its explicit mandate for facilitating developmental strategies, the synergy between cyberspace and sustainability took on an institutional form.

The WSIS focused on the broad use of information and communication technologies, with the assumption that greater use of available technologies would enable increased access to content worldwide. In practical terms, it established a direct connection between advances in information and communication technologies, especially the forging of cyberspace, and the new global priorities focusing on transitions toward sustainable development. An important WSIS target is to render half the world's population cyber accessible by the year 2015 (from roughly 33% today).

The WSIS will be remembered more for its introduction of a new issue on the evolving agenda for international collaboration – namely the important of virtual interactions — than for its immediate effects. That the virtual is now formally recognized as a domain for institutionalized international collaboration is itself evidence of the effectiveness

of this initiative.

The Millennium Development Goals (MDGs) were an important and overarching initiative during the second part of the twentieth century. The MDGs provide institutional connection between the vision in *Agenda 21* in 1992 and the goals of the WSIS initiative. As such, the MDGs serve as critical linkage mechanisms in the evolution of global accord of sustainability goals. The MDG initiative was organized to focus on reducing poverty and marginalization and demonstrates a shift toward collective responsibility for the least advantaged individuals and societies on a worldwide basis. As with the UN's *Agenda 21,* the MDGs are statements of general principles, intentions, and directions of action. While not legally binding, these illustrate a gradual shift away from problem definition to shared responsibility.

Interestingly, the MDGs reflect the view of the global *problematique* from the perspective of the disadvantaged populations. Attainment of the goals expressed would result in the eradication of extreme poverty, universal private education, increased gender equality for women, reduced child mortality, better maternal health, arrested trends in major diseases, greater environmental sustainability, and collaborative partnering strategies for development, to highlight key elements.

The Power of Knowledge

International institutions have taken the lead in arguing for the deployment of cyberspace in support of sustainability strategies. Concurrently, the growing demand for new knowledge to help manage transitions toward an environmentally viable and sustainable future further reinforces the relevance of cyberspace in the process. We now appreciate that the natural environment and cyberspace share some common properties that create obstacles for decision and policy (Choucri, forthcoming). For example, both transcend constraints of geography and physical location, penetrate boundaries and jurisdictions, and can manifest notable shifts and reconfigurations.

The international community's efforts to frame strategies toward sustainability may create important precedents for the governance of cyberspace more generally. Equally, if not more relevant, is the record to date of international responses to scientific evidence of climate change and other man-made environmental dislocations.

A final note: in order to increase the likelihood of the anticipated shift toward knowledge-informed solution strategies to environmental challenges and the sustainability dilemma, it is imperative that all types of existing knowledge be readily accessible to all interested communities everywhere.

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