

Book 2 : Computing Our Way to Paradise? The role of Internet and Communication Technologies in Sustainable Consumption and Globalization (Chapter 5 – 10)

Author : Robert Rattle

Chapter 5, The Efficiency Paradox: Intensity and Consumption

This chapter presents the expectations of ICTs in energy and resources consumption contribution. Specifically, it is focusing on the ICT ability in production and consumption activities. Intensity and efficiency are catalyst in achieving more sustainable consumption. However, consumption of resources grows result some problems. Thus, analysing the ultimate consequences of ICT applications is an incredible difficult challenge.

The other component described in this chapter is the structure of domestic and global economic which is important in determining factor in national consumption. The role of a service or information economy in de-linking economic and physical growth is important. Later, the national economy will become more materials and energy-intensive at that global (or aggregate) level and ever more dependent on increasing this form of growth. In this manner, industrialized countries export their ecological footprints to support their affluence.

Even though in micro level clearly generate reduced consumption with efficiency improvements, however it has been stressed that the important of microanalysis to be taken into consideration. As an example, for energy efficiency, the energy consumption can be increased by making energy appear effectively cheaper than other inputs or increasing economic growth which pulls up energy use. And such, more research should be done in achieving goals to reduce aggregate throughput consumption and avoid contributing to increased energy and materials consumption.

Chapter 6, From Social Meanings to Global Conformity: ICTs and the Global Commons

Overall, this chapter explore The life-cycle assessment , ICTs Contributions, The ICTs social dimensions including Their adoption an adaptations; Forces driving and influencing their development; Social processes; Norms of behavior; Institutional arrangements that help determine how ICTs will be used; and Implications for sustainable consumptions, To reveal the potentially enormous implications of ICTs and How ICTs are affecting consumption activities.

The environmental impacts of ICTs can be categorized as Direct, which is from Lifecycle use and Indirect, which is from the substitution, optimization or complimentary elements. In addition, it can be significant, conceptually challenging to understand and complex to measure. The environmental effects can be from the Technological

Expectations, Social Reorientation- Macro Level, Substitution and Optimization and Induction, Supplementation and Creation.

The Rebound effect results from the Social Forces ,consumer preferences, social norms and institutions and the organization of production. The transformational effects of ICTs are function of their potential to improve efficiency through dematerialization, substitution, production optimization and product efficiencies.

Social processes are important in order to shape consumption behaviour. After a formation has been identified, Advertising, marketing, branding, subtle messaging, and promotions have become effective tools used in a variety of combinations to elicit product and company loyalty and overcome consumption barriers. The growth process that has displaced traditional experiences has become highly creative. Domain conflicts, where contradictions occur as people shift domains and specialty uses might drive the acquisition of more than one type or style of product

Ropke (2001) demonstrated that the behavior of adopting new domestic technologies forms an integral part of several dynamic forces behind increased consumption and accelerating rates of consumption. By adopting advanced manufacturing technologies—such as ICTs—in response to competitive market forces, businesses exhibit similar renewal processes intended to improve efficiencies. Dilemma of technological equipment cost recovery—without the increased product volumes—over reduced product and process lifetimes. Consumption increased, but the *rate* of consumption also increased (Schnaiberg). Many of these social processes and institutions have become fundamentally dependent on consumption activity (Sanne, 2002).

However some problems occur such as Technological shortcomings, unable to immediately compete on the market due to the risks of developing new technologies and their initially low performance characteristics and declining costs lead to declining prices, which drive increased consumption.

Global hegemony or cultural genocide also has been discussed in this chapter with examples. There are some ICTs Roles in these trajectories as below :

- Open source software is widely adopted and spread to nations where repressive regimes manipulate information and communications as an attempt to counterbalance censorship.
- ICTs can and do empower low- and middle-income countries and traditional cultures and communities.
- The application of ICTs to empower and learn from other cultures manifests a tangible likelihood that they may draw these peoples into the

consumer society with all its cultural baggage: consumer and producer lock in to materialistic growth processes and structured inequality.

After considering aggregate energy and materials throughput globally, its continue to move in the wrong direction. Continuing to assault both natural ecosystems and human health in the process, potentially including our long-term survival, is certainly unproductive. The technological and production efficiencies have not succeeded in reducing the scale of the global human economy. Classical economic growth clearly has not reduced inequalities. Perhaps it is time to onsider the framework from which these tools have been derived and explore the forces shaping our social processes and institutional structures.

Chapter 7, Pathological Tendencies: The Health Link

This chapter described how the human well-being is a basic goal that connects people, societies, cultures, and understandings—the human environment—across space and time and with the natural environment and with some examples. In shaping social behaviour, it can be influenced from individual, social environment and the role of governments. However, there is no role for institutional frameworks and social organizations to support population health if it is an individual responsibility.

The consequences for population health from globalization are unquestionably important. However important individual genetic susceptibilities to disease may be, the common causes of the ill health that affects populations are environmental which they come and go far more quickly than the slow pace of genetic change because they reflect the changes in the way we live. Medical technologies and an emphasis on the biomedical or epidemiological nature of health are more than simply the application of a technofix. Applications of ICTs, such as telehealth and telemedicine, provide an outlet to contribute to such measures of progress. However, people continue to become ill from entirely preventable causes.

Electronic health records and health information can help ensure accountability, and they can provide greater access to health information and relevant health knowledge. Telehealth systems can ensure greater access to health and medical help in remote areas of the world.

Chapter 8, Incantations and ICTs: A Global Ideological Pervasion

This chapter described on how the application of ICTs influence various social processes, mediate social behavior and decision making, and coevolve with social institutions. The ICTs interact in tremendously complex ways with both consumption activities and globalization. The social framework has been examined closely as an important role in ICTs and in their effect on sustainable consumption and globalization. More specifically, how economic, or, more precisely, capitalist or market-based values are important have been examined.

The rationality and values components consist of Systems Management and Damage, Economic driving forces, research theories, scientific socialization and capitalism.

The story of capitalism values consists of utilization of diversity as pattern and benefits, societies considering cooperation and new social model and marketing. This chapter also discussed the value of money, global awakening scenario and ICT and globalization.

Chapter 9, Redefining Reality, Transforming Values

This chapter discussed how to achieve progressively more sustainable consumption in the increasingly constrained globalized world. A transformation of value structures and practices, the institutions that service them, and the mechanisms that enable these changes are needed. *Daunting, idealistic, unrealistic*, and a host of similar adjectives might be employed to describe this goal.

In order in providing more sustainable in future, the distributed structure and the role of ICTs which can perform in such structure are very important. A distributed democratic organic structure would nurture can be consists of Superior resiliency, Flexibility, Security, Equality and long-term sustainability and Balancing demand and supply right down to the smallest devices.

With ICTs, such networking could function autonomously, smoothing and lowering peaks across regions and throughout the day, shifting power, matching supply and demand, shutting off and turning on power where and when necessary, distributing production, constantly reevaluating and assessing system states and trends and automatically reorienting the system as required. ICTs are an available and critical tool that can now forge the foundation to enable, construct, and align values with ecological and social realities. The power of ICTs in the anachronistic structures we have are rapidly catching up to us in surprising and unintended ways. The emerging supra-organism we have created through ICTs must be recognized for the culturally disruptive and marvelously empowering opportunity it is. The need to take those sparks and forge a new reality that accommodates the physical realities of our world and the ecosystems that enable life to exist on this planet.

Chapter 10, Global Transformations: Serious Considerations and Promising Opportunities

This chapter summarizes the role of ICTs in sustainable consumption and global transformations overall. In addition, it discuss on how the strength of ICTs to reshape the current global trajectory will be in their ability to affect change at that social level, globally—to alter and transform the deepest beliefs and value structures and the institutional mechanisms that support and interact with these structures such as to transcend conventional educationistic, linear thought and behavior with complex, self-

organizing actions, behavior, and decision making consistent with the natural ecosystems that we inhabit.

According to Milbrath (1995, 115), More sustainable consumption will “*require wide and deep social relearning of thinking, value structures, behavior patterns, and institutional arrangements*”. The sustainable awareness could be from the way we push forward a behavior change for people and if people behaviors have sustainability awareness.

With the awareness of global climate change becoming increasingly apparent, the ICT sector has peppered the media with reports expounding the benefits of rapid adoption of ICTs. While ICTs offer hope to contribute to a sustainable global transformation, widespread critiques and examinations of how to apply ICTs in a sustainable manner have been woefully scarce.

Emerging reports and information in this realm leave little hope for success. Emerging out of this dismal affliction are promising opportunities. The potential smart grid, and its diffusion across social structures, is one such opportunity. There are many developments that support this expectation. Application programming interfaces, open document formats, open source programming, social networking, and creative commons platforms all resonate with the self-organizing structural properties of ICTs for purposes other than simply amorphous capital and economic growth. The strength of ICTs will not be in their ability to modify process efficiencies, product design, or other low-level applications.