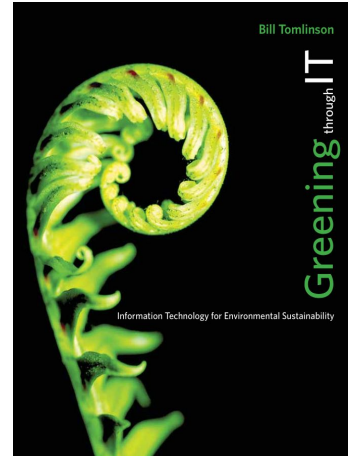
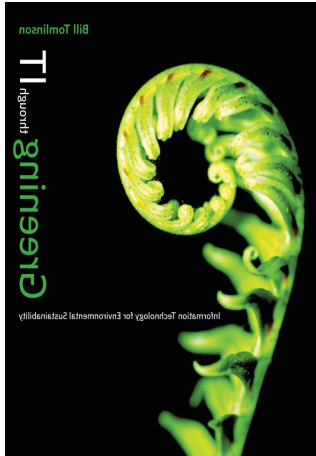


Greening through IT

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Green IT course group 1



Introduction

Greening through IT is generally making other practices more sustainable via IT.

Can also include increasing sustainability of IT itself
(**Green IT**)

- This book seeks to provide a framework for thinking about IT systems that address environmental topics
- Helps people to work more effectively to address the numerous environmental concerns currently facing the planet



Introduction to Green IT

- The field of Green IT brings together two areas, environmental issues and IT, and explores the ways in which they connect to each other.
- Examines the opportunities for IT to address issues related to the global ecosystem
- **Green IT** bridges the horizons through EHCC (Extended Human Centric Computing)
 - Time: Postpones satisfaction of current desires to prevent global climate disruption
 - Space: Involves all nations in meeting environmental challenges
 - Complexity:
 - Social complexity: enables people to take action within groups rather than individuals
 - Disciplinary complexity. Collaborates with different fields (engineering, arts and human sciences)

Environmental Horizons

“Unmitigated climate change would, in the long term, be likely to exceed the capacity of natural, managed and human systems to adapt”



- Environmental problems include population growth, resource consumption, waste production, species extinction...
- All them are interrelated, a concern affects or is affected by other(s)
- Population growth is a complex problem
- Proactive actions needed sooner



Human Horizons

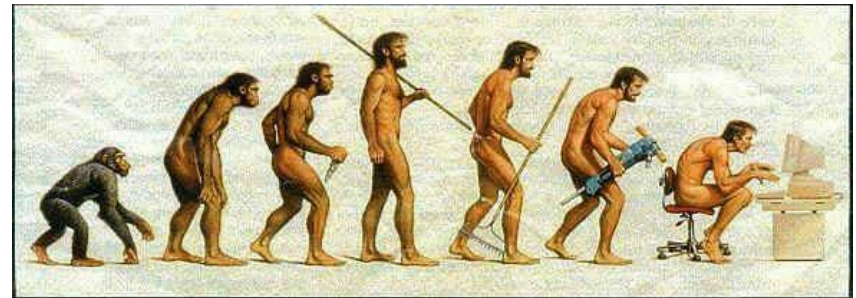
- What is needed for change? **Will, infrastructure & policies.**
- Coefficient of **relatedness**. We care more for people/species closer to us.
- **CEOs** work for **shareholders**, **Ecological incentive** increases only with **demand**.
- Demand **increases only** when **living well** \implies **raise standard of living.**
- **Educate**, since **birth rate** is correlated to education level.
- **Common currency of measurement**, currently **only CO2**
- Individual **concern** developed via **direct experience**, **learning** and **social support**



The Roles of Technology

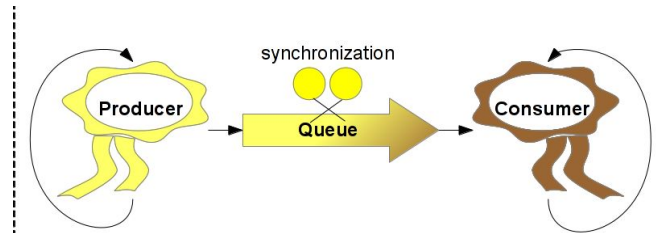
- Technology has helped us adapt to the environment, it is a powerful force
- Become integral part of our cultural system
 - Still has many benefits, but many detrimental social & environmental effects
- Good or bad? It depends on “how people use it”.
 - In general gives us more free time, encouraging innovation & creativity. Improves living standards
- Direct impacts, second-order impacts (enabling effects), third-order effects (due to behavioural change)
- Potentially may help more than...

...harm



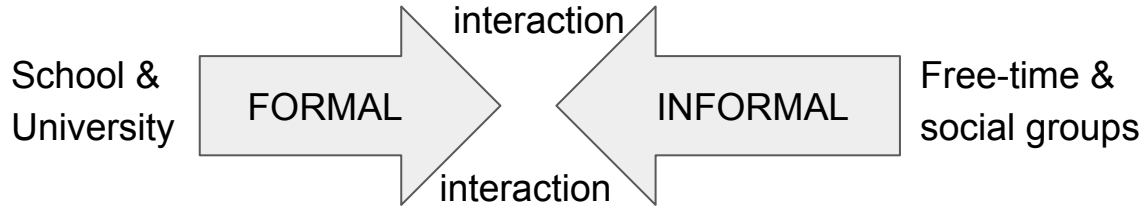
Survey of Green IT systems

- ❖ Second-order impacts: Can be applied in different domains -> Universality of IT systems;
- ❖ Third-order effects: Producers or providers with consumers of goods and services should consider needs of each other;



- ❖ The Paradox of Green Consumerism - Capitalism, Consumption-based society, Greenwashing
- ❖ Do we need another economic system to achieve global sustainability?

Education...



Environmental learning can occur in both formal and informal context



...and the Role of IT

- Demonstrating things by simulation
- Compress and expand both time and space
- Having immediate results
- Provide interaction

Green IT and Personal Change

- Behaviour: Personal & Cultural
- 3 different effects:
 - Direct and indirect environmental benefits
 - Changing the person's quality of life
 - Influence on social partner
- IT to help people track and justify personal change
- We need not only informations about our impact but also support for implementing changes



Collective Action

- Pledgebank - “I will change only if someone else will join”
- Sense of larger effect and not being alone
- Social networks (green dating)
- Transmission of ideas (P2P & vertically between generations)
- Inspire specialization (outsourcing of decisions)
- Sustain group action by motivating each other
- Transfer of experience via preservation, propagation, presentation mediums



Ways forward

Unsustainable trajectory

- Too many resources consumed, waste produced

2 ways of change

- Continuous gradual change
 - Personal change & broad social adoption
- Discrete quantum transformation
 - Dramatic social transformations

Gradual change may not be enough - most time-scales @ 1~10 years

Conclusion

- Complexity and **scale** of **Time** and **Space** affect degree of care
- Green IT can empower and increase awareness
- Still **need to change** much of **society**, Greening through IT or Green IT **will not** solve anything by itself

Questions!

Q: So is the book actually good?



- It's not bad. Quite interesting. Some explanations repeat or quote other parts within the book, but they might make it easier to start reading in random chapters.