Community Sustainability and Artificial Intelligence

A Primer

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Community Sustainability is a social goal for people to co-exist on Earth over a long time or meeting the needs of the present community without compromising the ability of future communities to meet their own needs. Sustainability usually has three dimensions (or pillars): environmental, economic, and social.

Artificial intelligence (AI), in its broadest sense, is intelligence exhibited by machines, particularly computer systems. It is a field of research in computer science that develops and studies methods and software that enable machines to perceive their environment and uses learning and intelligence to propose actions that maximize their chances of achieving defined goals. (AI) will transform business practices and industries and has the potential to address major societal problems, including sustainability.

Community sustainability can be a mixture of one or more of the following disciplines that can guide land-based decision making:

1. Permaculture (Nature-based community planning)
2. The New Mythology (Community in the Hero's Journey)
3. Transition Town (Localization)
4. Regenerative Agriculture (Conservation and rehabilitation-centered)
5. The Circular Economy

Principles of the Circular Economy:

A circular economy is a model of production and consumption, which involves Retaining, Rethinking, Regenerating, Reducing, Reusing, Recovering and Resilience for existing materials and products for as long as possible.

Retaining - holding a vision for change
Rethinking - being critical of the status quo
Regenerating - using Nature to revitalize a person or a system
Reducing - eliminating waste
Reusing - putting manufactured resources back in the system rather than in the garbage
Recovering - creating a healthy community and/or ecosystem
Resilience - human-scale and alternative community-based economics

AI-supported community sustainability can be focused on natural resources, power supplies, and infrastructure as a way of measuring and reducing the carbon footprint algorithm. By using Rethinking and Recovering, these measurements get to the heart of ensuring that the AI program supports a healthy environment. For example, one could design an AI program with circular economy prompts that looks at how a community's sustainable vision changes over time. Or how AI models a natural phenomenon such as a pollution source and its ongoing impact on sustainability. Degradation of the natural environment and the climate crisis are exceedingly complex phenomena requiring the most advanced and innovative data-driven solutions by AI.

AI will do much more in the future for sustainability and the planet.