Evaluate: Nature's Unifying Patterns - Design Checklist

Use this checklist to assess your design against nature's unifying patterns and consider how well-adapted to Earth's operating conditions it is (or could be).

Nature uses only the energy it needs and relies on freely available energy.
- ☐ Can you manufacture locally?
- ☐ Can you incentivize user shifts in energy usage?
- ☐ Can you build on existing code, tools, or templates?
- ☐ How can you leverage the community?
- ☐ Are you utilizing networks and experts to your advantage?

Nature recycles all materials.
- ☐ Can you design to the recyling infrastructure? Incentivize recycling?
- ☐ Can you close a technical or biological loop?
- ☐ Can you make use of a current waste stream?
- ☐ Is your product designed for disuse, disassembly, and reconfiguration?

Nature is resilient to disturbances.
- ☐ Can your company withstand disturbance while maintaining function? (E.g. Do you have the right experience/employees/trust?)
- ☐ Can your product/company heal after a disturbance?
- ☐ Does your product/company incorporate diversity and/or redundancy by design?
- ☐ Are information and resources decentralized and distributed?

Nature tends to optimize rather than maximize.
- ☐ Can you accomplish multiple functions with one design/business element?
- ☐ Can you use information rather than material and energy?
- ☐ Are you leveraging information to take the energy path of least resistance? (e.g. stakeholder/customer feedback, analytics, research, etc.)

Nature rewards cooperation.
- ☐ Can you reframe competitive advantage to one informed by nature's strategies?
- ☐ Does your company foster symbiotic, cooperative, community-based relationships?
- ☐ Will the success of your design/company create conditions conducive to all life, human and otherwise?
- ☐ Does your design/company cooperate with other parts of the system to make the most of what is available?
- ☐ Does your design/company create opportunities (niches) for more life?

Nature runs on information.

☐ Are you using feedback loops to inform marketing and branding?

☐ With your customers?

☐ Within your technology?

☐ Within your company? (personnel)

☐ Are you looking at the right data or measuring the right metrics?

☐ Are there simple rules you can follow to lead to complex results?

☐ Are you fostering emergent behavior?

☐ Are mistakes encouraged as a means of continual idea generation?

Nature uses chemistry and materials that are safe for living beings.

☐ Is your solution built to shape?

☐ Is chemistry done in water?

☐ Are processes done at ambient temperatures and pressures?

☐ Is manufacturing based on self-assembly?

☐ How are things along your supply and customer chain disposed of?

☐ Are your company policies life-friendly?

☐ Are you avoiding the most toxic/most polluting materials?

Nature builds using abundant resources, incorporating rare resources only sparingly.

☐ Are you using simple (common) building blocks in your design? In your business model?

☐ Does your design reuse materials or use readily available life-friendly materials?

☐ Are you leveraging common skills?

☐ Are you tapping an abundant market?

Nature is locally attuned and responsive.

☐ What materials/resources can you access within your own "backyard"?

☐ Are you taking into account cyclic factors?

☐ How can you design your business model to be responsive to changing conditions? (Technology, markets, climate, etc.)

☐ How well do you understand your customer and partner needs?

Nature uses shape to determine functionality.

☐ Can you manufature by building to shape?

☐ Does the design use shape and information rather than materials and energy?

☐ How can you make the most of limited resources to accomplish multiple functions?

☐ How can your company be somewhat self-organizing?