The Real-World Community Model

Travis A. Grant,

Affiliation contacts: *trvsgrant@gmail.com*

Version Accepted: 18 April 2022

Acceptance Event: *Project coordinator acceptance*

Last Working Integration Point: *Project coordinator integration*

Keywords: societal model, societal systems model, societal information system, societal data structure, societal modeling, societal engineering, societal development, societal simulation, socio-technical model, socio-technical data structure, societal systems, societal standards, societal information protocol, real-world information model, community model, community information systems model, community-type societal information systems model

Abstract

A society is a complex system of interrelated parts. The specification standard for a community-type society is divided into a set of interrelated sub-systems that form a whole societal information system. The primary sub-systems of a societal system are: the social system; the [economic] decision system; the material system; and the lifestyle system. These societal systems categories apply to all types of societies; of which it is their internal configuration and emergently created interrelationship that are observable as a type of society. All societal systems may be sub-divided, for purposes of understanding, design, and adaptation, at these conceptions of categorization. If society is a collaborative effort, then a common and unified information system is essential for appropriately interpreting what is real with regularity. Commonality in generation and utilization of an information system allows for individual subjects among a societal population to work with one another to function better and to enhance the likelihood of survival and thriving; thus, linking self-interest to social-interest (mutual self- and social- fulfillment). Through a unified model for the organization of information human fulfillment is capable of being structurally attained. This model can be used programmatically to read and write society.

Graphical Abstract

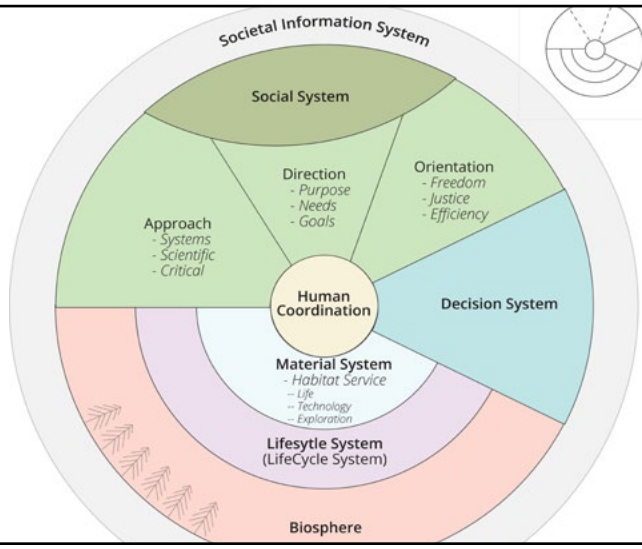


Figure 32. *The real-world community information systems model.*

1 Introduction

INSIGHT: *We are faced with a looming scientific recognition that we are indeed one family sharing one household (the Earth) bound by the exact same laws of nature and hence the same unifying operational conception.*

The Real-World Community Model (RWCM; a.k.a., the Real World Community Model) is the highest level model describing the informational organization of a community-type society -- it is an information systems (IS) model for said type of society. This is the highest level model in the societal framework. The model represents a formal "map" by which the society structures information and arrives at important decisions that involve the systems and resources of which the society is composed. As a model, it visualizes *what* information sets the society is composed of, and describes *how* the society is composed in terms of its high-level relationships. The primary inputs of the model include the societal systems common to every type of society, and their direct sub-systems. The model presents these systems in their spiralling (helical) interrelationship, depicting the potential for enabling the spiralling evolution of the societal system, and its inhabitants. This type of societal design is superior to other models for it is subject to change as more accurate information becomes available. With iteration comes the capacity for adaptive design, which may be directed through an ability to orient by applying tools and strategies to current issues. The model represents a common point of focus for a society (of the type 'community') as well as a structured [systems] approach for accurately engaging with the real world. Essentially, the Real World Community Model is the highest-level model representing the unified information system for a community-type society, and it maps the scope of the society's conception and data architecture; it is the master reference model for the society. That which is real causes effects in the experiential, objective world. A unified societal information system relates all actions in society, because they are all interconnected. This model can be used to understand and intentionally design any type of society.

A societal information system (SIS) is a system that provides information for structuring, decisioning, and control of the organization of a society. It structures the information set and information processing capability of a society. Each event affecting the societal system and its inhabitants is assumed to have a probability of being processed correctly within the system, independent of previous states of the system.

When the organization of a societal system is defined, then individual users of the system have a greater potential for engagement with the system and with the real world, since every society exists within the real world, but not every society accounts for its presence. When navigating in reality, good decisions (as decisions that create fulfilling state-dynamics for those navigating together) require accurate maps that layout the whole terrain of life. Maps are useful for deciding a course of travel (i.e., the journey to be travelled) and they facilitate the arrival at decisions whose results maintain desired characteristics and results of travel. Essentially, the Real World Community Model is an information system's model for the semantic organization, storage, and processing of information at a societal level for individual, social, and ecological concern about the real world in which all humanity lives.

Note that the term "real world" in the model's title is a synonym for humanity's common reality - it is the real world that everyone experiences, or has the conditional potential to experience, in common. Herein, there is not "my reality" and "your reality"; there is the/our experience of reality. This shared reality (existence) can be realized and accounted for by those within it, or not. In the reality of human embodied experience there is a world that remains stubbornly important, and it might be called, "the real world". The real world provides a reference for stability when a population navigates together. And, a community is, in part, a population of people navigating together in common.

It is important for a population to note that in the real and discoverable phenomenological world all societal models must be re-assessed and re-calibrated as new information becomes available. Further, when investigating how a system meets the real needs of a population, then the whole of the system must be accounted for: the whole of the real world must be modeled; there must exist a global accounting for information in the world space. By accounting for and organizing information about a common reality, a population of individuals becomes capable (i.e., creates the shared potential) of arriving at decisions that lead them, iteratively, to a higher and more optimal state of fulfillment. Society is, itself, a dynamic and iterative process (wherein, iteration is the repetition of a process).

The Real World Community model is a single model that can be viewed from several perspectives, and is designed to reflect the operation of a society that accounts as coherently as possible for the real world. It is built for a social population that has decided to navigate the world together. This model contains information accumulated through the lived experience of a cooperative population. The model determines the perception and integration of new information and it facilitates the creation of new knowledge. This model explains societal reasoning, inference, and decisioning processes that influence behavior and experience.

The information system that is the Real World Community Model is designed with a "person-independent" architecture. As a functional and common information system, the model is designed to externalize information without judgment or subjective projection such that societal decisions maintain a person-independent, non-arbitrary processing architecture. It is a system designed to explore implicitly social processes and physical activities, and make them explicit (i.e.,

visualize them explicitly) so that the whole of the society benefits from the evolution of understandings. As such, the model has the potential to be commonly informed by all participants in the society. Therein, it represents a formalized design that processes data independent of any individual's or group of individuals' authority. It may be said to be a model or tool that is "collaborated upon" for the benefit of everyone. As a tool, the model functions independent of matters of jurisdiction, opinion, or conduct. Its manner of functioning is transparently objective and collectively formalized.

An evolving information system must accomplish the following functions to survive and flourish:

- Adapt [-ion]
- Integrate [-ion]
- Orient [-ation]
- Direct [-ion]

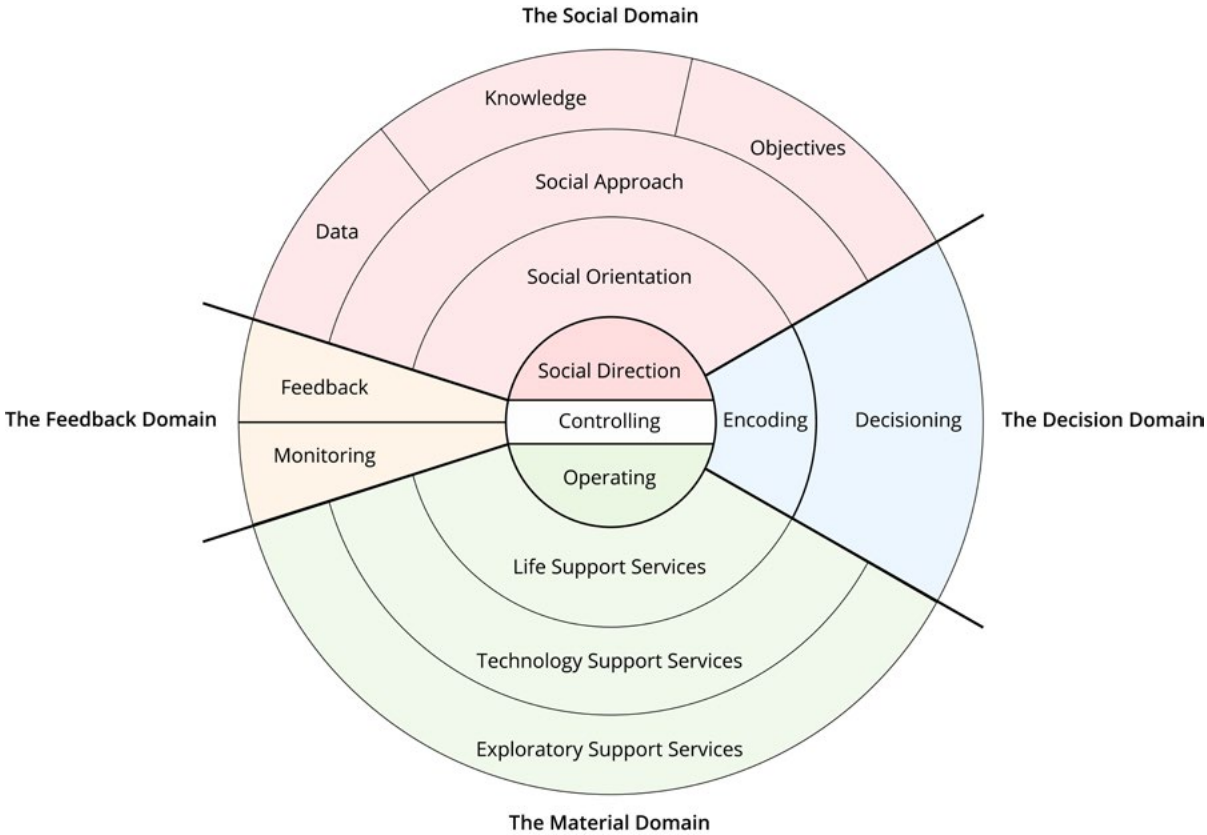
A common information model and shared logic is required for:

1. A population to maintain agreement on the way a given system ought to operate.
2. Identifying the fundamental principles by which a given system ought to operate.
3. A complex of working groups and operational teams collaborating on a given plan.

Reality is information in which consciousness explores by means of a physical body. The reality of an information system is that it evolves by reducing entropy. Therein, the optimal configuration of a social system is that of cooperation, for cooperation reduces entropy. Therein, social interactions may be optimized when individuals care about one another, and therefore, act thoughtfully toward one another. A decrease in entropy means two things: first, it means less chaos (less uncertainty); and second, it means more information is present in the system by which to arrive at more optimal solutions. In emergent complexity theory, as self-organization occurs there is a lowering of entropy.

> *"We live in an information society, a global information system, a symbiotic system that stretches outward almost to infinity. So, the very idea of separation becomes literally and tangibly not applicable to the way we approach our life, the way we approach knowledge, the way we approach society, and the way we approach economics, which is the defining feature of our existence - how we get what we need, how we relate to that other system from which our resources are derived, and how we relate technologically to one another through*

Figure 33. *A high-level overview model of the real-world community domains.*



a common system. The realization is that we have to begin to unify all concepts, 'consilience' [wikipedia.org].
- Peter Joseph

2 The domains of the Real World Community Model

A.k.a., The real-world information systems model, the unified information system, the societal information system, the real-world societal information systems model, the informational systems operation model.

The Real World Community Model is an information system sub-composed of three primary organizational sub-divisions, known as system domains. Each top-level system domain is composed of sub-domains representing one or more sub-models to that system domain. Each domain [space] is an information sub-system and a component of humanity's common existence in the real world [information system]:

1. **The social system domain** - The social organization of the society. This content is detailed in full in the Social System Specification Standard.
   A. **The purpose domain** - The purpose for the

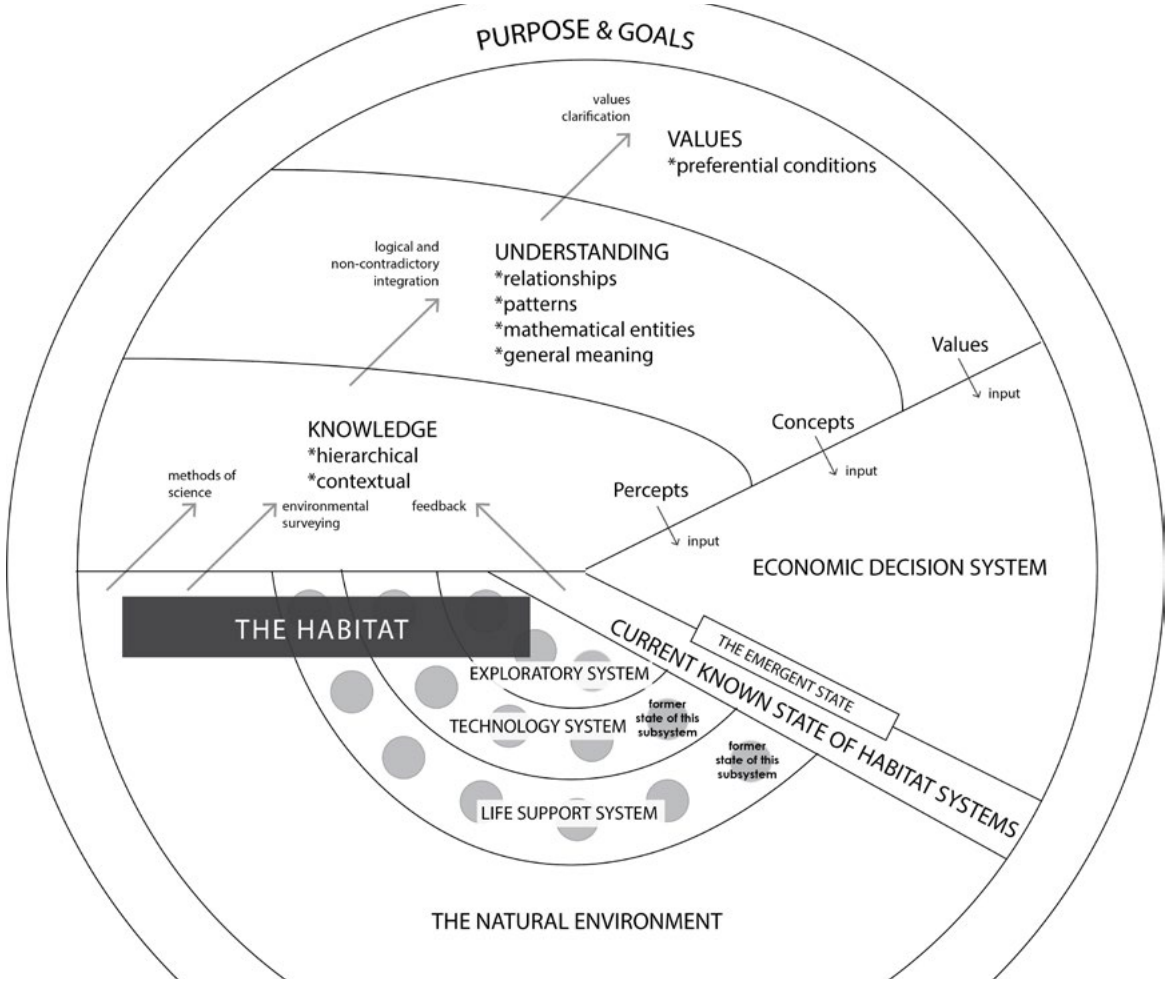


Figure 34. *The real-world community information systems model.*

community's existence in the world. This is the direction domain, and it includes goals and other directional components.

B. **The data domain** - All available data that is commonly collected and output through various mediums and methods. This domain space may also be referred to as the "perception domain". This domain includes data collected from the environment and data output as the result of information processing.

C. **The knowledge domain** – The logical integration of observations and relationships into common knowledge. This domain space may also be referred to as the "conception domain". This domain includes the social approach and the knowledge produced from that approach.

D. **The values domain** – The values domain is composed of the society's value system and its reasoning. The value system involves those conditions [based upon that which is known] that support the fulfillment of our needs and orient our total [systems] alignment with our common direction of intent. The values domain defines the set of value conditions that orient decisions toward the fulfillment of real world human needs. This is the orientation domain, and it includes objectives and other orientational components.

2. **The decision system domain** - The decision organization of the society. This content is detailed in full in the Decision System Specification Standard.

   A. **The [economic] decision domain** – The formalized decision model applied toward a change to the current known sate of the habitat's dynamic. The decision system modifies the operative dynamic [re-structuring] of the community.

   B. **The current known state of the habitat** - This is the model of the community's presently known dynamic of operation.

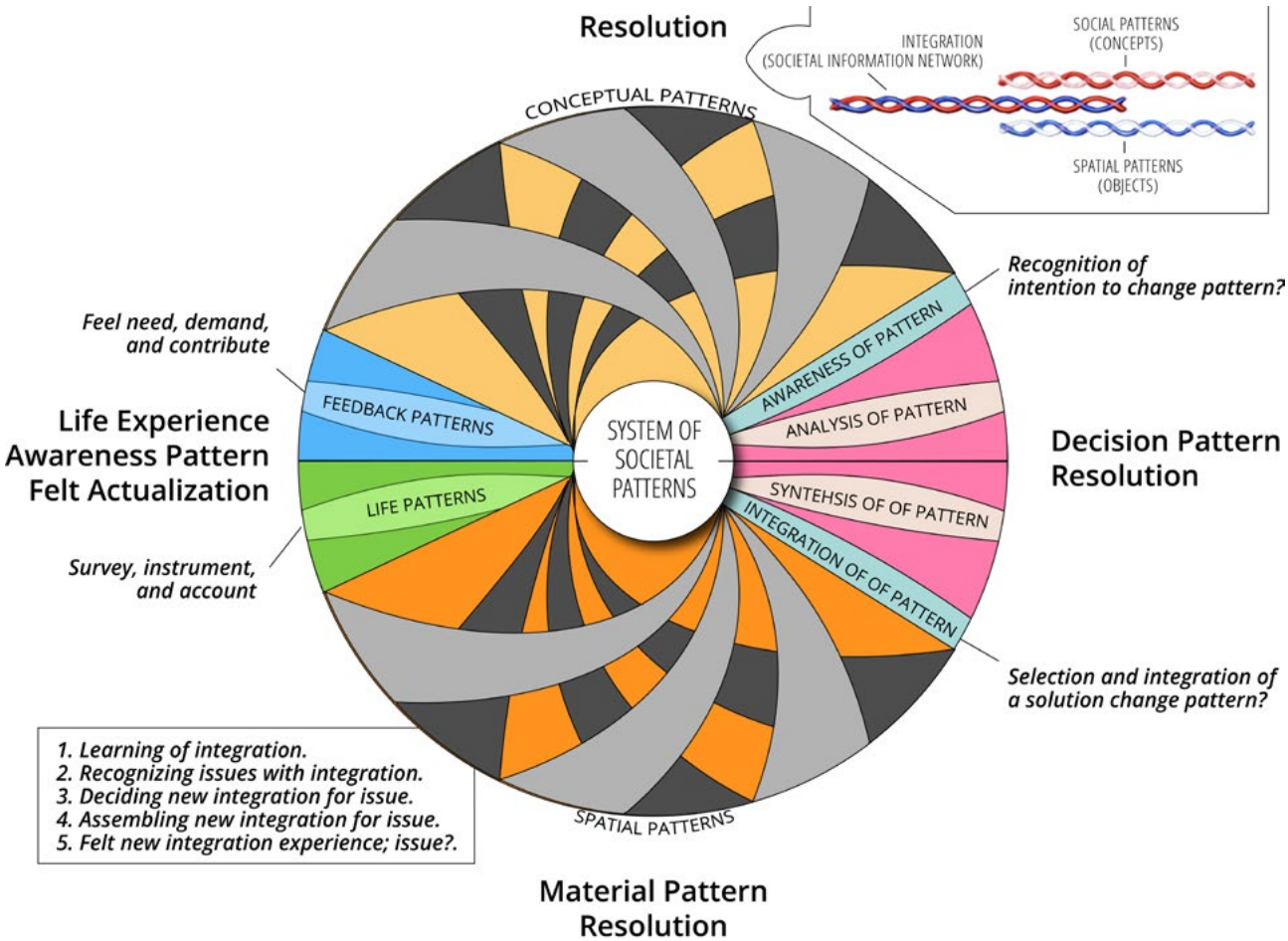


Figure 35. *A real-world community information systems model depicting data (social/conceptual) and object (spatial) information within a bi-directional spiralling pattern where social, decisional, material, and life solutions are resolved.*

3. **The material system domain** - The material organization of the society. This content is detailed in full in the Material System Specification Standard.
   A. **The habitat service systems domain** – The operational service systems that provide the architectural infra-structure for the continuation of the society's habitat and its material fulfillment of individuals' needs. The habitat service system domain also includes a record of the state-dynamic of all prior habitat service system states.
   B. **The natural environmental domain** – The domain from which humanity acquires resources, discovers knowledge, and into which the habitat service systems are produced and integrated. This is the larger ecological environmental system that humanity affects and that affects humanity. This is the life-ground that sustains the habitat and humanity's material existence. It is that which humanity constructs its service systems into.

Note that there are multiple views of the Real World Community Model. Some of these views contain a fourth domain. In these other views the fourth domain may be:

1. **The lifestyle system domain** - the lifestyle organization of the society. This content is detailed in full in the Lifestyle System Specification Standard.
2. **The feedback domain** - the monitoring, surveying, and feedback organization of the society.
3. **The project plan domain** - the project plan to bring into existence and sustain the society. This content is detailed in full in the Project Plan Specification Standard.

Within the Real World Community Model, the material system is divided into two interrelated systems. The first system is that of the natural [ecological & phenomenological] environment, which is discoverable and surveyable, and represents the life-ground of material fulfillment. The natural environment is both discoverable and is also humanity's common heritage. The second system is that of the habitat service systems, of which there are three principal subdivisions (Read: life, technology, and exploratory). This second system is embedded within the first. A society's habitat, and its service systems, exists within a larger phenomenally ecological system. The service system(s) structure and organize the provisioning of fulfillment.

Some societies do not seek to account for a sufficient totality of the real world. When the real world is not sufficiently accounted for in the iterative design of a societal system, then human fulfillment and general happiness will likely be left wanting. Additionally, there is accurate information to be gained about the real world, and there also is inaccurate information about the real world. A community-type society requires accurate information about itself within the real world if it is to remain resilient and adaptive to an environment that "dictates" its survival and well-being.

If a system (or in the literature, 'agent' or 'constructor') does not accurately model its environment, then its reasoning, decisioning, and results will likely suffer. In the real world, systems are surrounded by their environments, forming a cohesive whole, which can be modeled and then dynamically simulated. Creatures that are unable to successfully model the world around them are likely to perish more quickly. The information system of a community-type society must be sufficiently flexible and accepting of feedback to adapt its "mapped" model of the [real] world as more information is gained

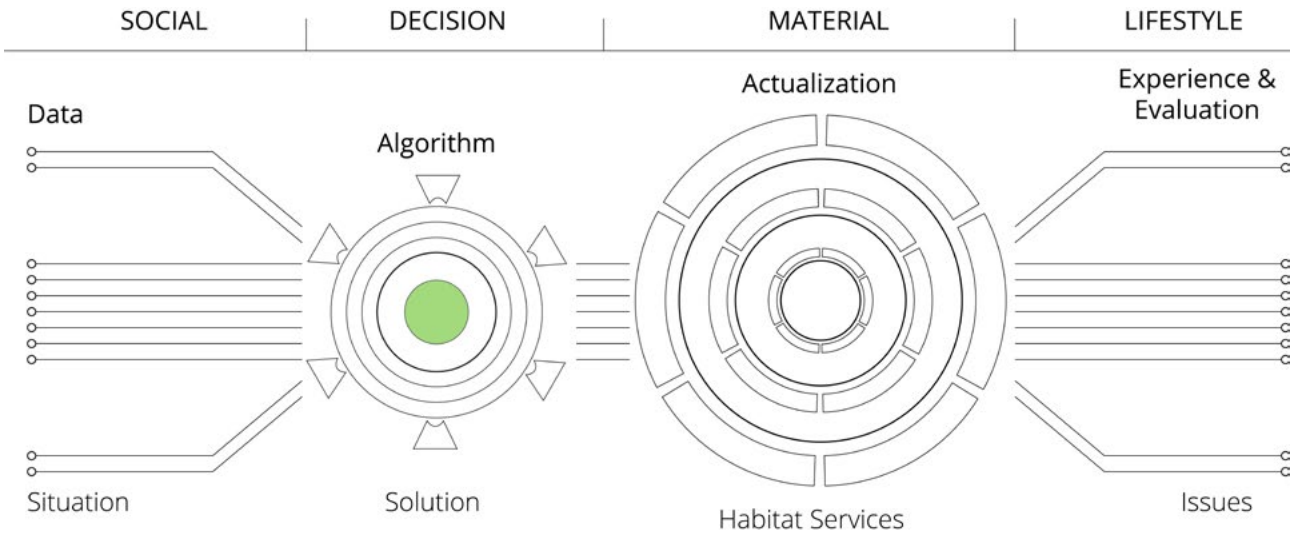


Figure 36. *Overview of a society's four informational and material dimensions of design and operation.*