

Problem Characterization



- ◆ Existing knowledge is based on divergent theories of sustainability
- ◆ No metrics of sustainability exist to distinguish among options with different primary effects
- ◆ Limited empirical data
- ◆ Contextual interdependencies with other systems are important
- ◆ Built facility decision-makers operate within a context of constraints that must be considered in prioritizing improvement options

Research Objective

A dark blue world map is centered in the background of the slide, showing the outlines of continents and oceans.

To enable decision-makers to systematically prioritize sustainability improvement options, according to the objective of maximizing facility sustainability within contextual constraints

Point of Departure

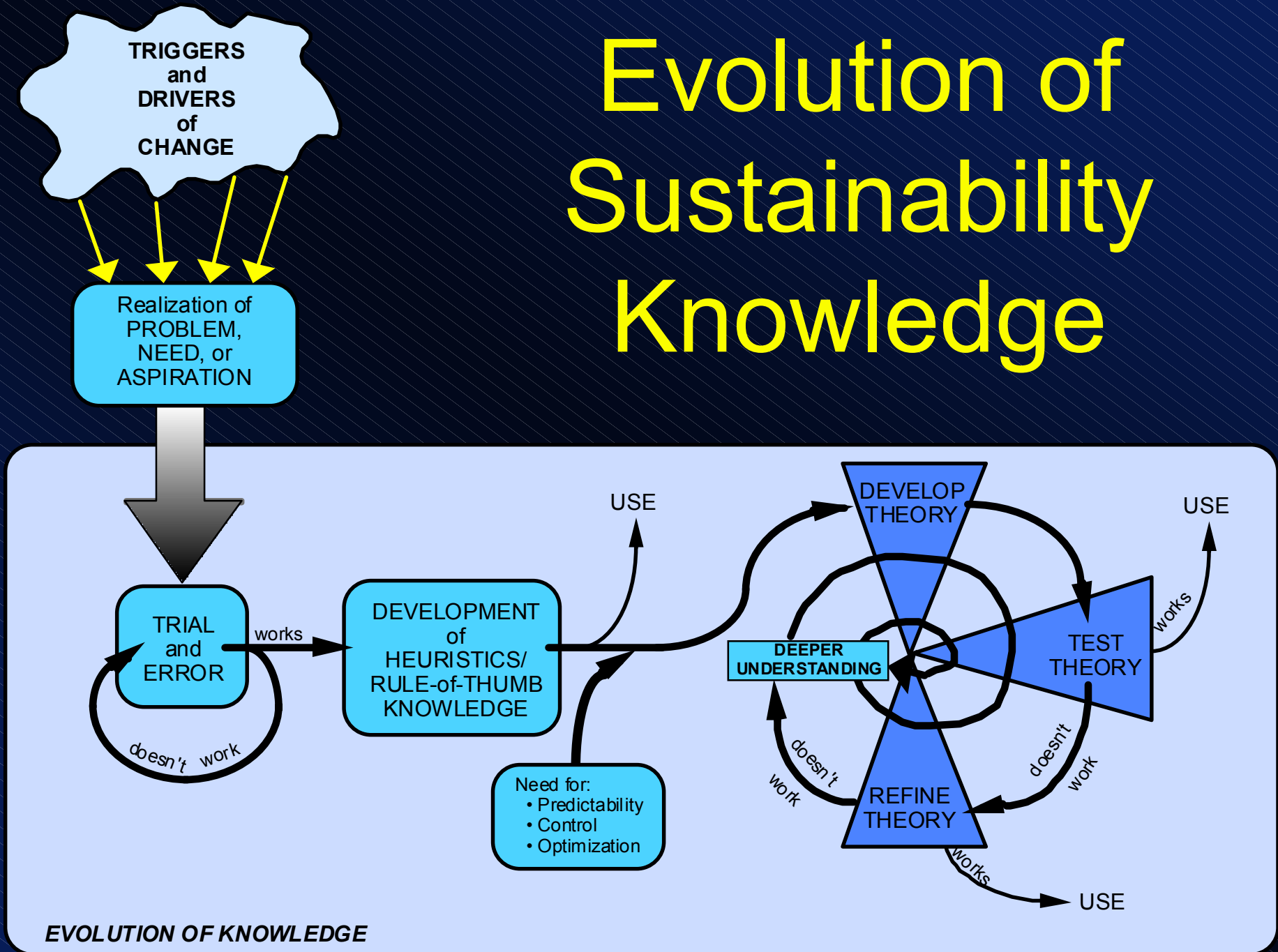


- ◆ Growing body of heuristic knowledge about built facility sustainability
- ◆ Limited number of divergent implicit or nonoperational theories describing the concept
- ◆ Lack of operational measures of the concept that can be systematically applied to holistically evaluate built facilities to prioritize improvement opportunities

Contributions

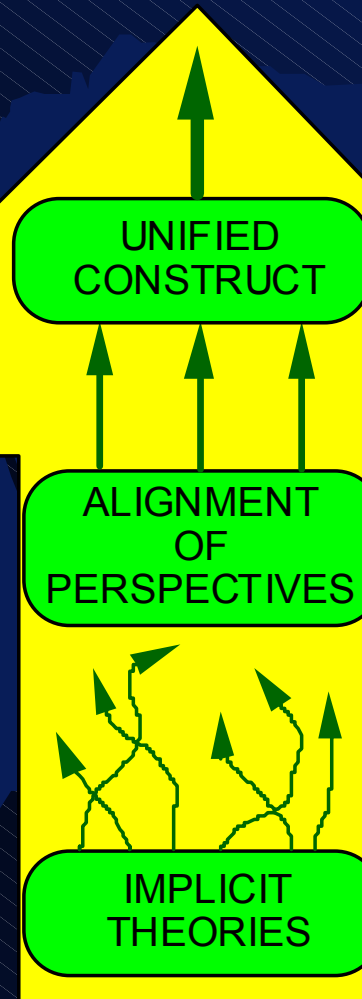
- ◆ Aligned construct of sustainability for built facilities
- ◆ Operational metric for benchmarking the existing level of sustainability of a built facility
- ◆ Process for applying the metric to prioritize facility improvement options from a sustainability perspective
- ◆ Systematic mechanism for decision-makers to evaluate improvement options in terms of their relative contribution to the sustainability of a facility.

Evolution of Sustainability Knowledge



OPERATIONALIZATION

Alignment of Perspectives



First Generation
Models

HEURISTIC/
RULE-of-THUMB
KNOWLEDGE