# Designing Health Systems for the Future

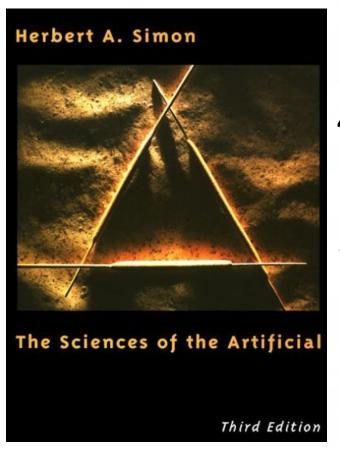
**Design Science as a Research Paradigm** 







# From Natural Science to Design Science



## What is design?

"Everyone designs who devise courses of action aimed at changing existing situations into preferred ones.

The intellectual activity that produces material artifacts is no different fundamentally from the one that prescribes remedies for a sick patient... or a social welfare policy for a state"

# From Natural Science to Design Science

DRS is a research paradigm in which a designer answers questions relevant to human problems via the creation of innovative artifacts, thereby contributing new knowledge to the body of scientific evidence. The designed artifacts are both useful and fundamental in understanding that problem.





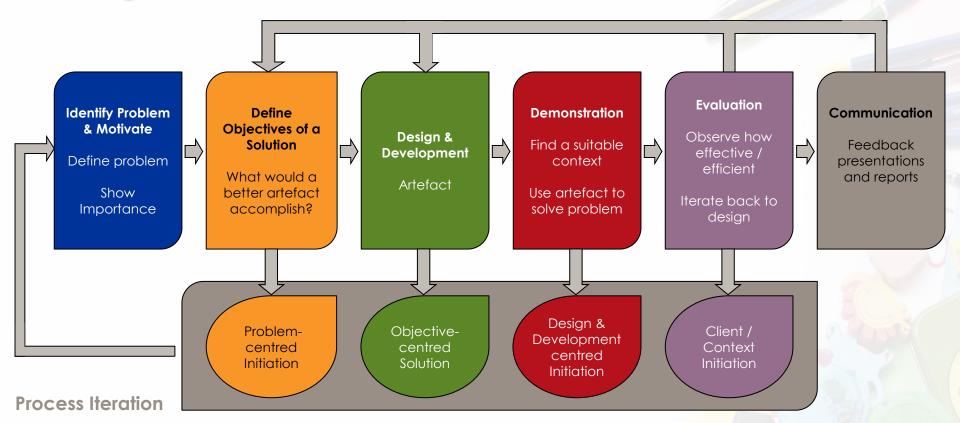




Constructs

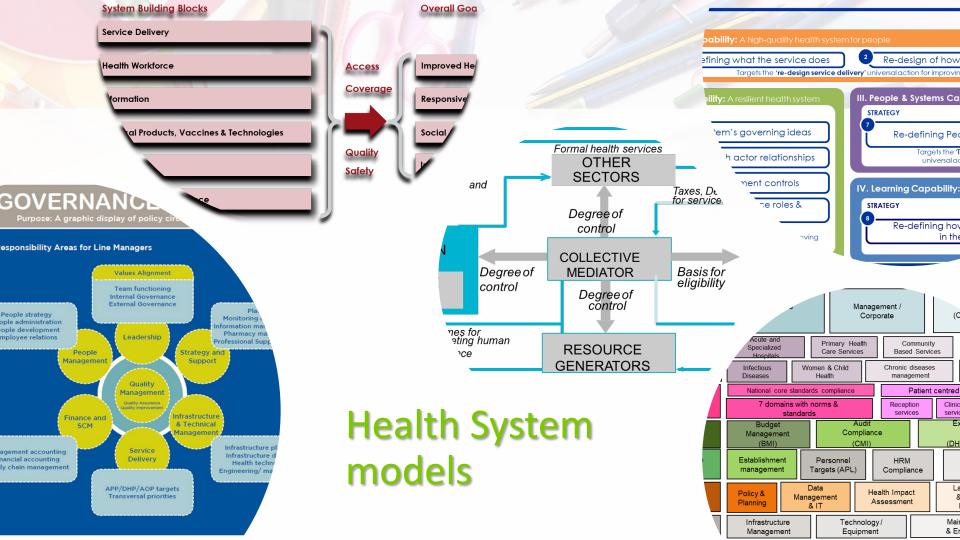
**Models Methods Instantiations** 

# **Design Science Research Process**



Incrementalism

Peffers K, Tuunanen T, Rothenberger M, Chatterjee S. A Design Science Research Methodology for Information Systems Research. J. Manage. Inf. Syst. 2007;24(3):45-77



# Artefact example: WHO Health System model

**System Building Blocks** 

**Service Delivery** 

**Health Workforce** 

Information

Medical Products, Vaccines & Technologies

**Financing** 

Leadership / Governance

Overall Goals / Outcomes

Access

Coverage



Quality

Safety

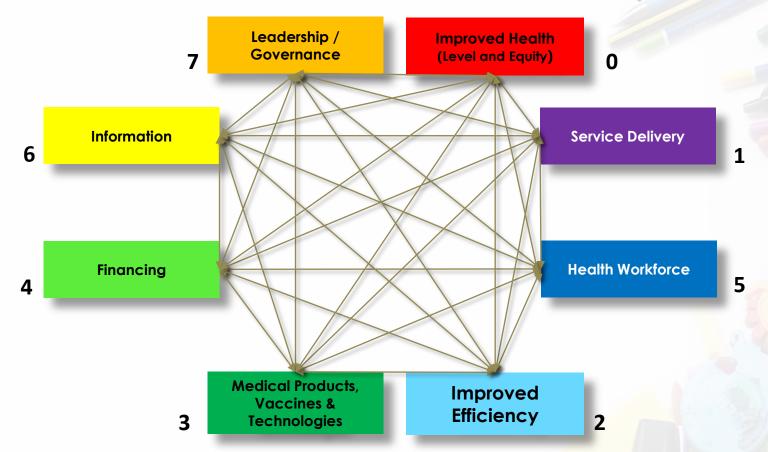
Improved Health (Level and Equity)

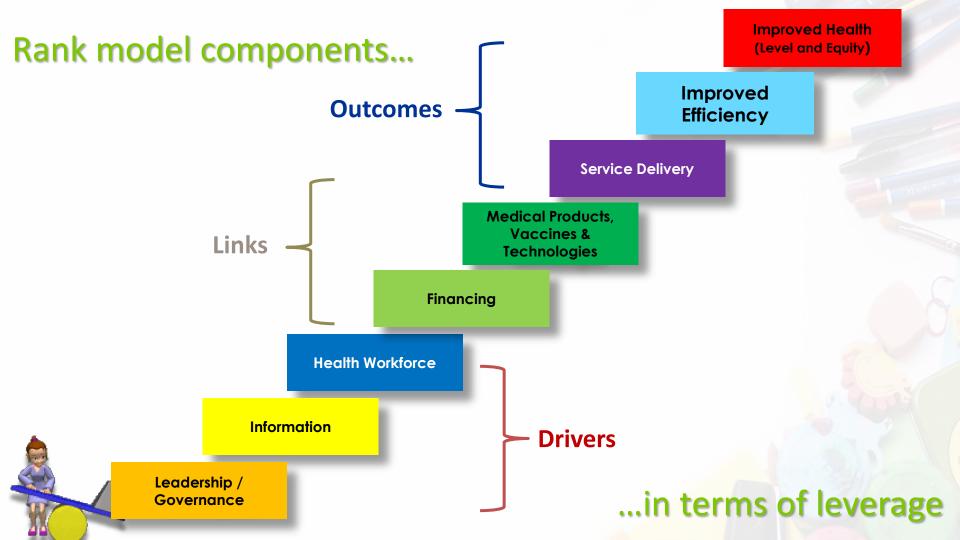
Responsiveness

Social And Financial Risk Protection

**Improved Efficiency** 

## **Explore Interconnections between model components**





## Multiple Perspectives: Designers and Users

a) designer perspective



content

presentation

functionality

interaction

#### intended product character

pragmatic attributes manipulation

hedonic attributes

stimulation identification evocation

#### consequences

appeal

pleasure

satisfaction

b) user perspective

product features

content

presentation

functionality

interaction

#### apparent product character

pragmatic attributes manipulation

hedonic attributes stimulation identification

evocation

### consequences

situation

appeal

pleasure

satisfaction



## **Natural Science**



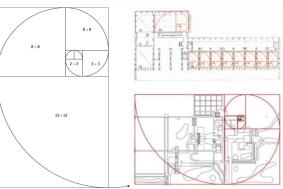
# **Design Science**



Golden Ratio



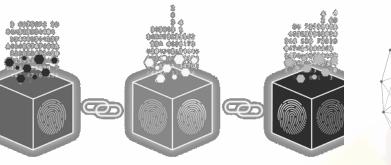
Murmuration



Infrastructure Design



Interface Design



Decentralized Immutable Ledger for Health Information Leadership and Governance ?

