

Business Design Concepts for Digital Transformation

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Business Design Concepts for Digital Transformation

- Abstract
 - Enterprise Architecture / systems engineering is business-driven, yet business analysis and architecture has difficulty, articulating the delivery and sustainment of innovation and competitive advantage.
 - Business design, originating from business schools, offers a refreshing "new" way of formulating the business architecture to address innovation while maintaining current operations.
 - The presentation will highlight the concepts of "wicked problems", reliability and validity thinking (essential for stakeholder management) and abductive reasoning.
 - Business design has articulated a way of making EA relevant to the various stakeholders and the presenter gives several case studies where business design would have been very useful.
- Key takeaways:
 - Formulating innovation based on a deep understanding of the Business and its operating model
 - How to define the future while incrementally transforming the present
 - Using Business Design to understand and manage stakeholder

Robert Weisman, MSc, PEng, PMP, CD



- **Robert Weisman** MSc, PEng, PMP, CD Robert Weisman has worked for nearly 40 years in business, infrastructure and IM/IT plans and operations. As a portfolio/program manager for major business transformations in both the private and public sectors, he has lived many ways of articulating the business to drive the creation, transformation or deletion of enterprise capabilities. He believes that business design concepts provide a useful addition to EA best practices.
- Robert is a civil / military engineer who also has completed Army staff college and undergraduate and graduate studies in Computer Science (artificial intelligence / decision support. Currently Bob is a Phd candidate at the University of Ottawa where he is studying in the multi-disciplinary domain of e-Business (e-Society, e-Management and e-Technology) specializing in the business of government.
- He has used EA and TOGAF since 1993 and is an ongoing major contributor to the TOGAF® standard.

Robert is **CEO of Build The Vision** Inc. where he consults, mentors and teaches EA, knowledge management and strategic planning in both English and French. He has lectured extensively in both business and science schools notably the Royal Military College of Canada, École Centrale, University of Ottawa and University of Melbourne.

- Enterprise Architecture is Business Driven
- Business Architecture is crucial to getting it right
- EA is normally in the CIO organization
- Business architecture and analysis is:
 - Through the CIO lens
 - Focused on individual systems
 - Based on Systems Engineering
- Business Arch often poor and subsequently EA is not fit for purpose.

Why Concern Ourselves With Business Design ?

- First EA has little traction in business
 - Mainly in CIO ranks
- Roger Martin
 - Former Dean of the Rotman School of Management (University of Toronto)
 - Ranked number 3 on the Thinkers50 List of the world's most influential management thinkers
- Business Design is a refreshing, business conceived and business led way of essentially doing enterprise business architecture

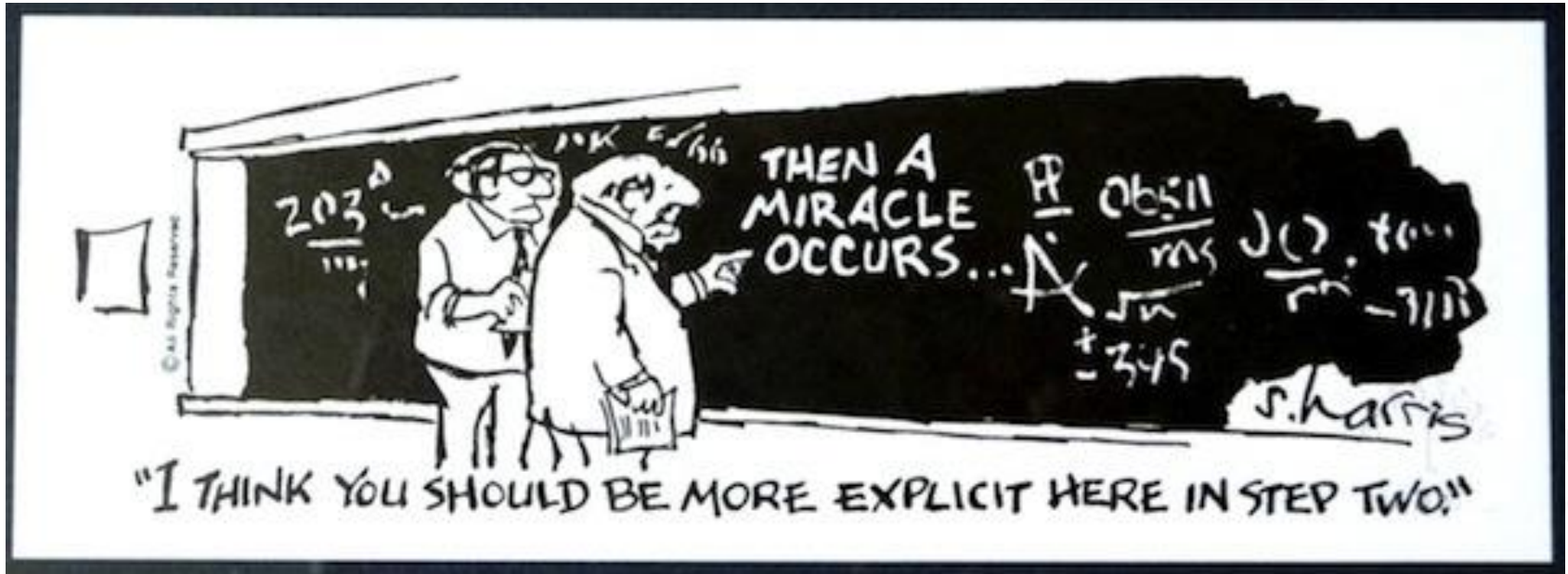
Enterprise Architecture is About Business Transformation

What are the three Main EA Deliverables ?



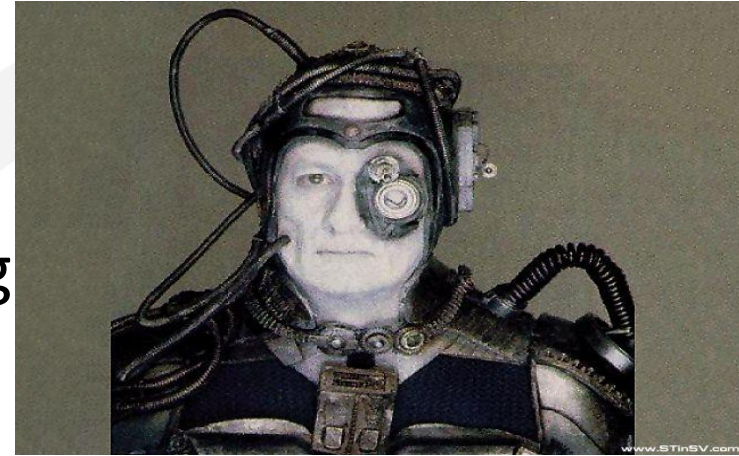
Successfully getting to a Future State is the essence of Business Transformation and Enterprise Architecture

MUST HAVE A PLAN TO GET TO THE VISION



Challenge – People Do Not Act Rationally

- EA analysis often treats human and computer actors the same way
 - They are not !!!
- EA is based on system engineering concepts
 - Ergo Logical \neq Implementable
- Business Design is a way of conducting Business and Enterprise Architecture that is more flexible
 - Focus is on Innovation and Creativity
 - Addresses those “non-functional” requirements key for success



How do We Reason

- Declarative
 - Deductive
 - Inductive
 - Normally used in EA
- **Generative**
 - **Abductive**



Deductive Reasoning

- Normally Used in Business analysis
- Based upon a Pre-existing Model
- The Logic of “What Should Be” in terms of True and False
- Capture Rules of the enterprise and core relationships
- Links them together in decision trees and algorithms
 - IF the Sky is Blue AND there are no Clouds THEN it is Sunny
 - IF it is Sunny THEN it is Golf Time



Inductive Reasoning



- Not new
- Reasoning on examining facts and extracting business rules
- Deals with extrapolation, best fit existing data
 - Discards outliers
- Basis for Data Mining and Exploitation of Big Data
- Essentially uses correlation
 - When Users buy Cheese they Buy Wine
 - Ergo
 - Place the Wine close to the Cheese section
 - Send Cheese purchasers Wine Vouchers



Abductive Reasoning¹

- This is new to most folks
- Invented by “Peirce”
- “Inventive construction of theories”
- Tries to deal with how entirely new models came into being
- Inquires what could be
- Deals with “outliers”



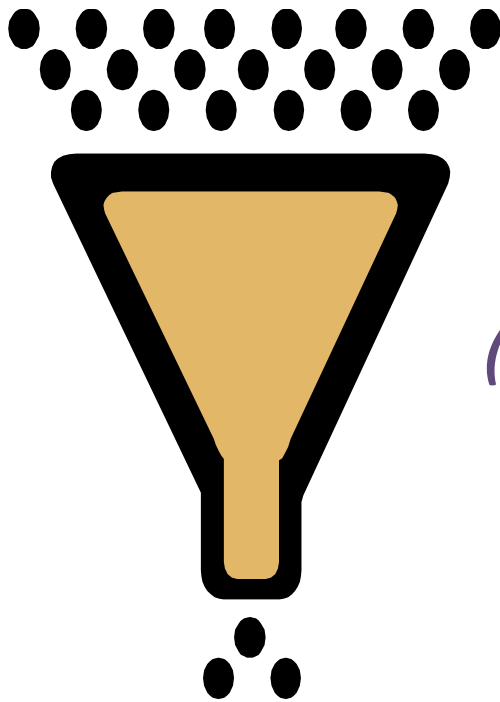
1. Roger Martin “The Opposable Mind: Winning Through Integrative Thinking” Harvard Business Press©2009 ISBN 978-1-4221-3977-6

Characteristics of Exploration and Exploitation

	Exploration	Exploitation
<i>Organizational Focus</i>	The Invention of Business	The Administration of Business
<i>Over-riding Goal</i>	Dynamically Moving from the current knowledge stage to the next	Systematically honing and refining within the current knowledge state
<i>Driving Forces</i>	Intuition, Feeling, hypotheses about the future, originality	Analysis, reasoning, data from the past, mastery
<i>Future Orientation</i>	Long-Term	Short-Term
<i>Progress</i>	Uneven, scattered, characterized by false starts and significant leaps forward	Accomplished by measured, careful incremental steps
<i>Risk and Reward</i>	High Risk, uncertain but potentially high reward	Minimal Risk, predictable but smaller rewards
<i>Challenge</i>	Failure to consolidate and exploit returns	Exhaustion and Obsolescence

Knowledge Funnel

“The Design of Business” Roger Martin ©2009 Harvard Business Press



Mystery



*Heuristics
(Rules of Thumb)*



Algorithm

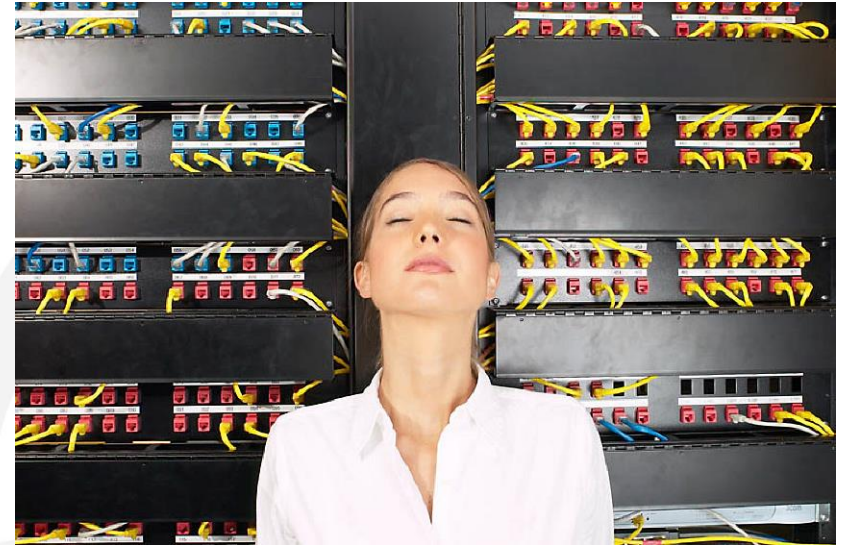
- Messy, Aggressive, Confounding
- Difficult to set the problem
- No model available to solve
- Requires design thinking
- e.g. MacDonalDs start, Walmart

- Monopoly of knowledge worker
- Often will not share

- Candidate for automation

The “Reliability Mindset”

- Consistent and Predictable
- Algorithmic
- Persistence of the past
- Eliminate bias
 - Everything data-based
- Honed Analytical Skills
- Managerial skills are built and rewarded
- Six Sigma and ITIL are reliability based



The “Validity” Mindset

- Produce Outcomes meet a certain objective
- Generally Heuristic
- Break with the past
- Understand risk and bias
 - Little supporting data

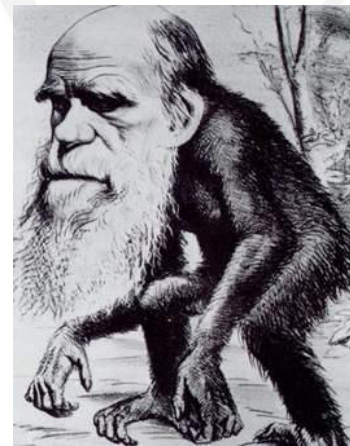


- Honed Intuitive Skills
- Accept Risk especially “Head in The Clouds”

Integrative Thinking

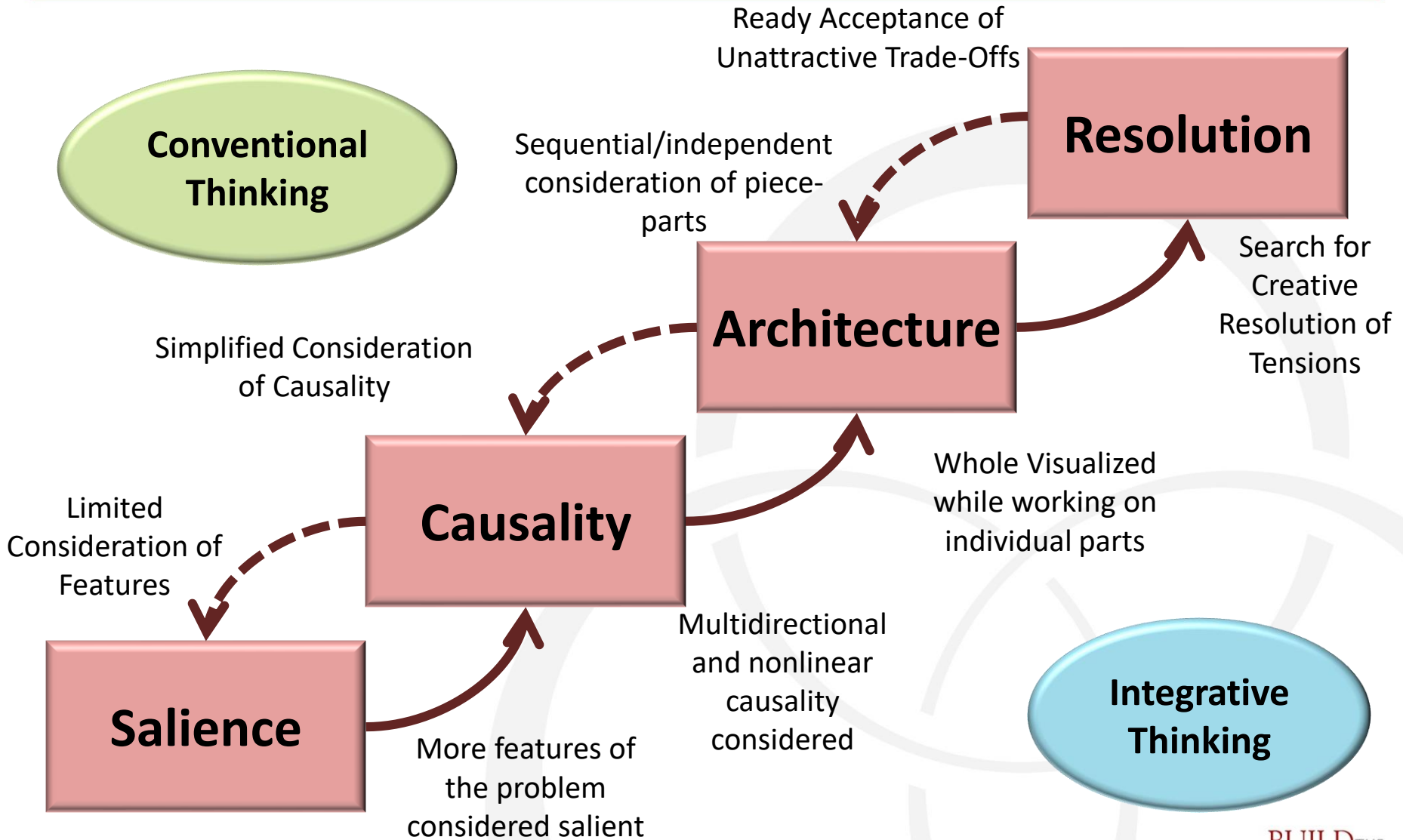
"The Design of Business" Roger Martin ©2009 Harvard Business Press

- The metaskill of being able to face or two (or more) opposing ideas or models
- Instead of choosing one versus the other
- Generate a creative resolution of the tension in the form of a better model
- Which contains elements of each model
- But which is superior to each (all)



Integrative Versus Conventional Thinking

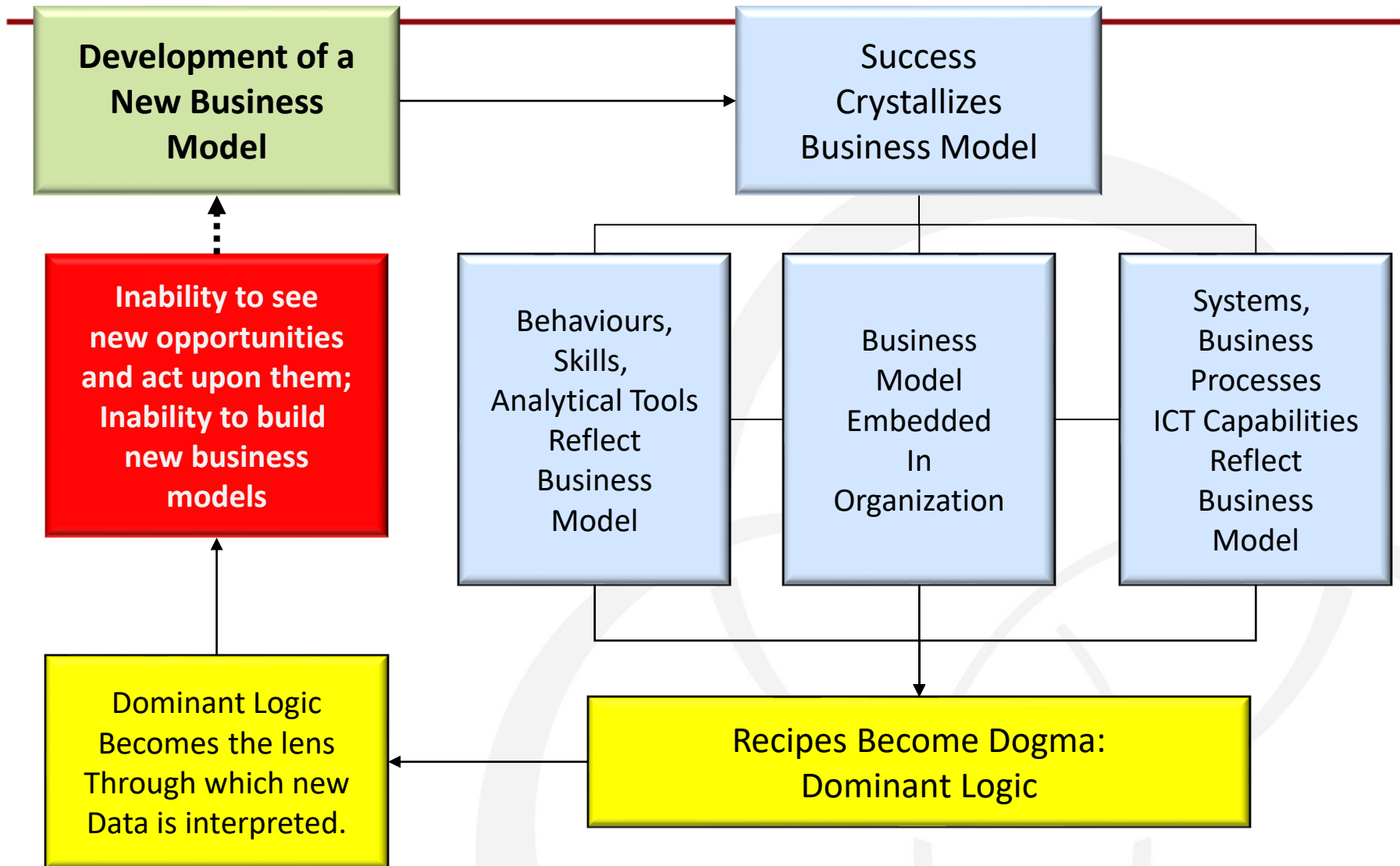
“The Opposable Mind: /winning Through Integrative Thinking” Roger Harris – Rotman School of Business (UofT) ©2009



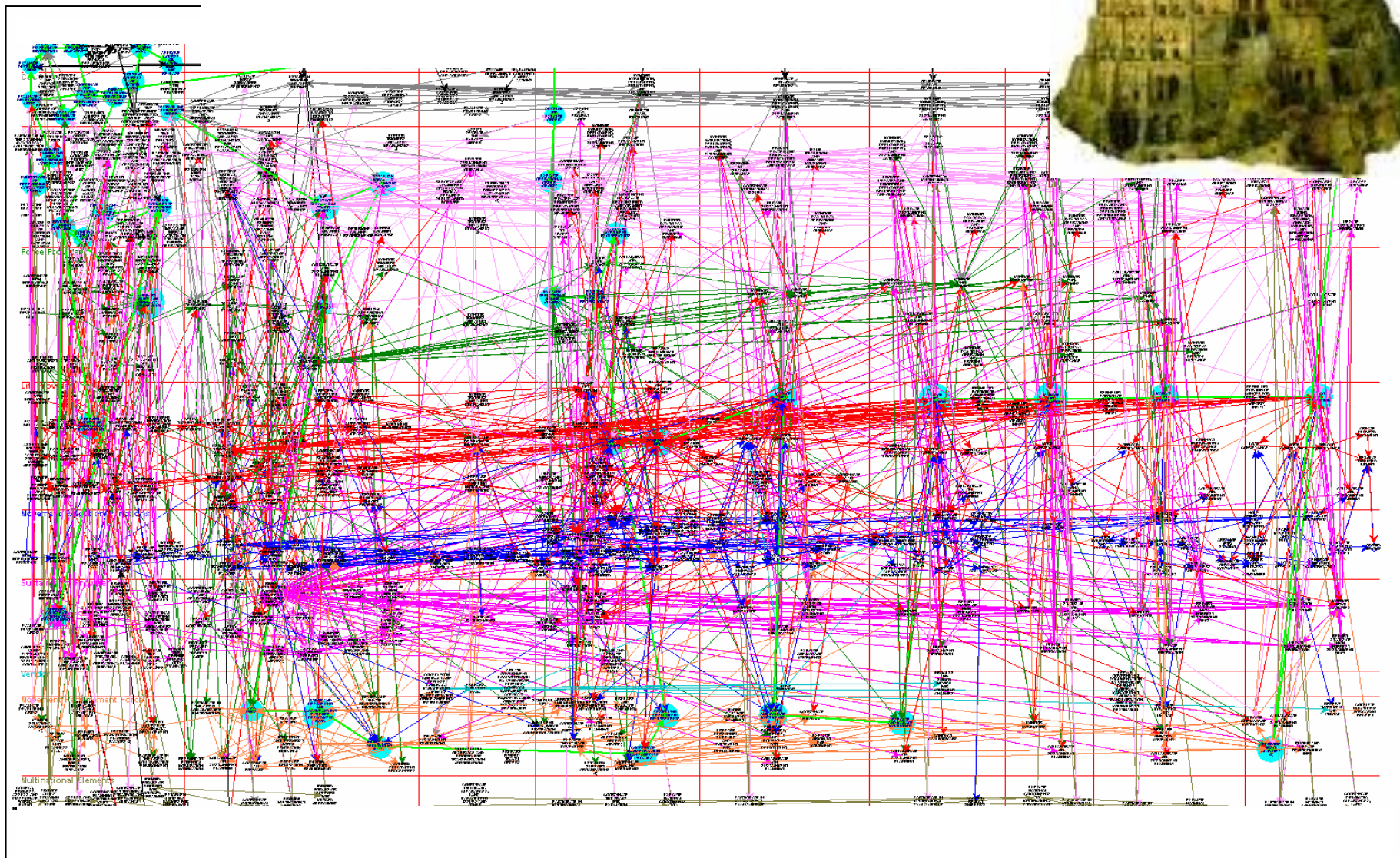
Conventional Thinking

- Dominant Dogma
- Refining the existing model
- Driving through efficiencies
- System approach where focus is on each piece rather than the whole

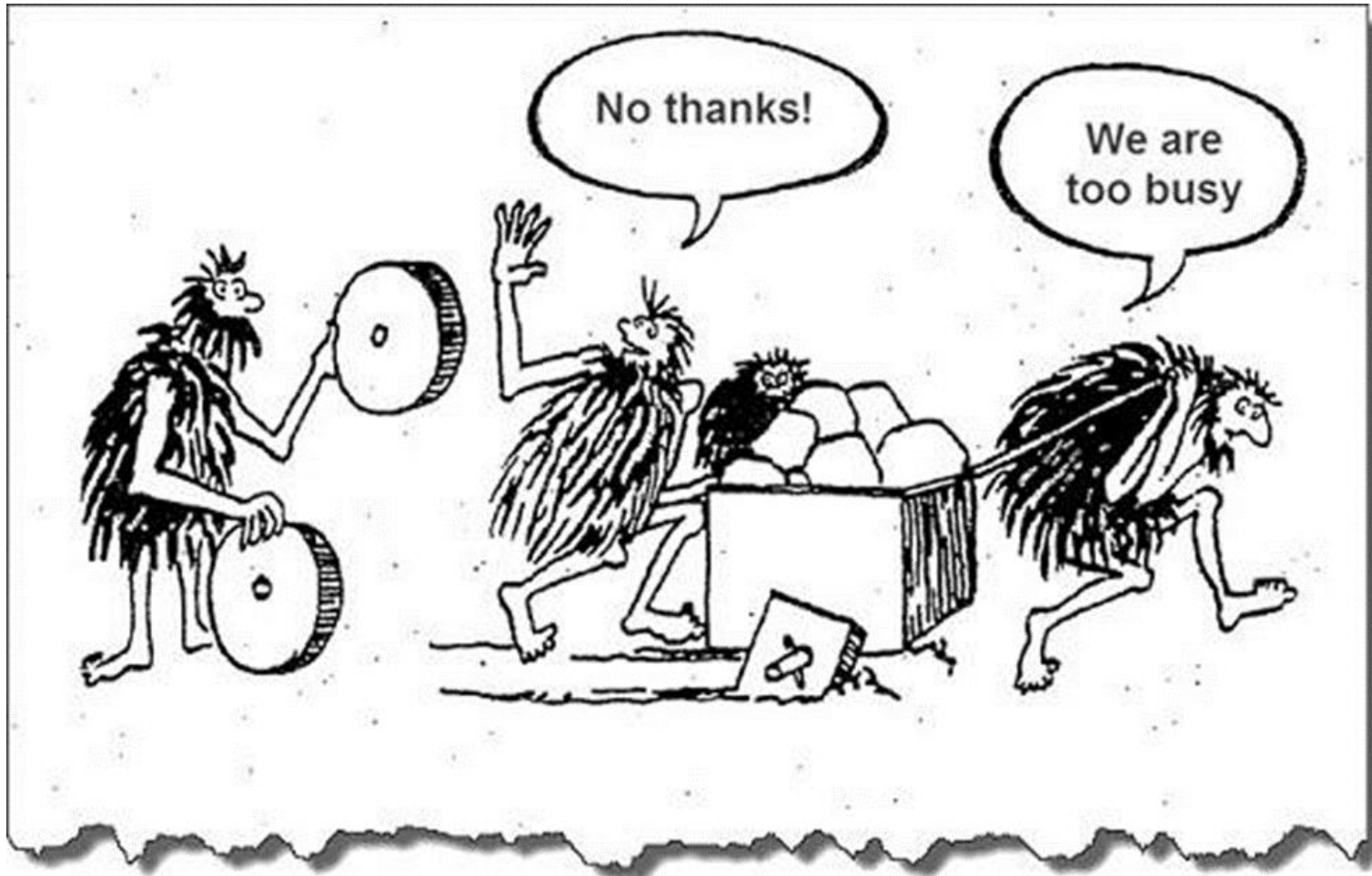
Challenging the Visionary Evolution of Dominant Logic



When Dominant Dogma has Produced This



Tyranny of The Immediate: Trumping New Opportunities



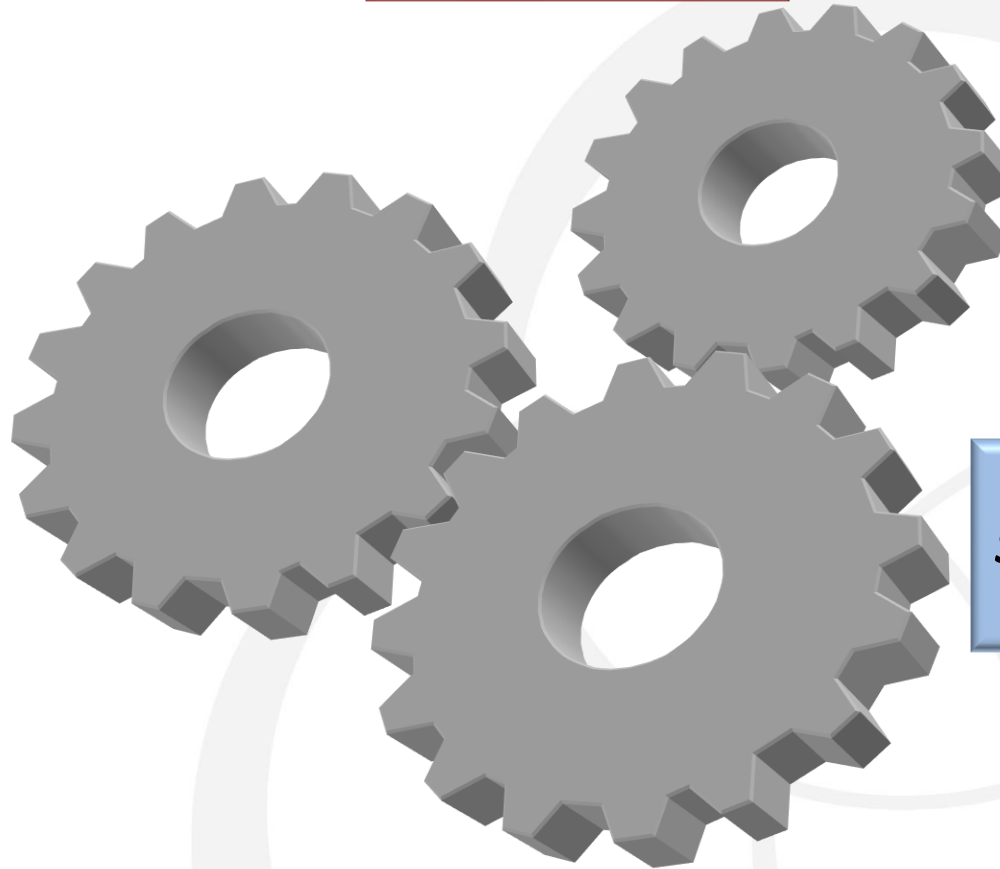
The Three Gears of Business Design

“Design Works” Heather Fraser ©2012 University of Toronto Press (Rotman-UTP Publishing)

***Gear 2
Concept
Visualization***

***Gear 1
Empathy and
Deep Human
Understanding***

***Gear 3
Strategic Business
Design***



The Power of Show Me

- Need to Demonstrate Capability and its Business Advantages to Stakeholders
- Use TOGAF Business Scenarios



***Visualize The
Capability***



Buy-In



***Understand The
Possibilities***

**A Huge Oil Inc
Information Outcome**

**The Right Decision
At the Right Time
Using the
Right Information**

**The Foundation
Architecture**

Decision Quality

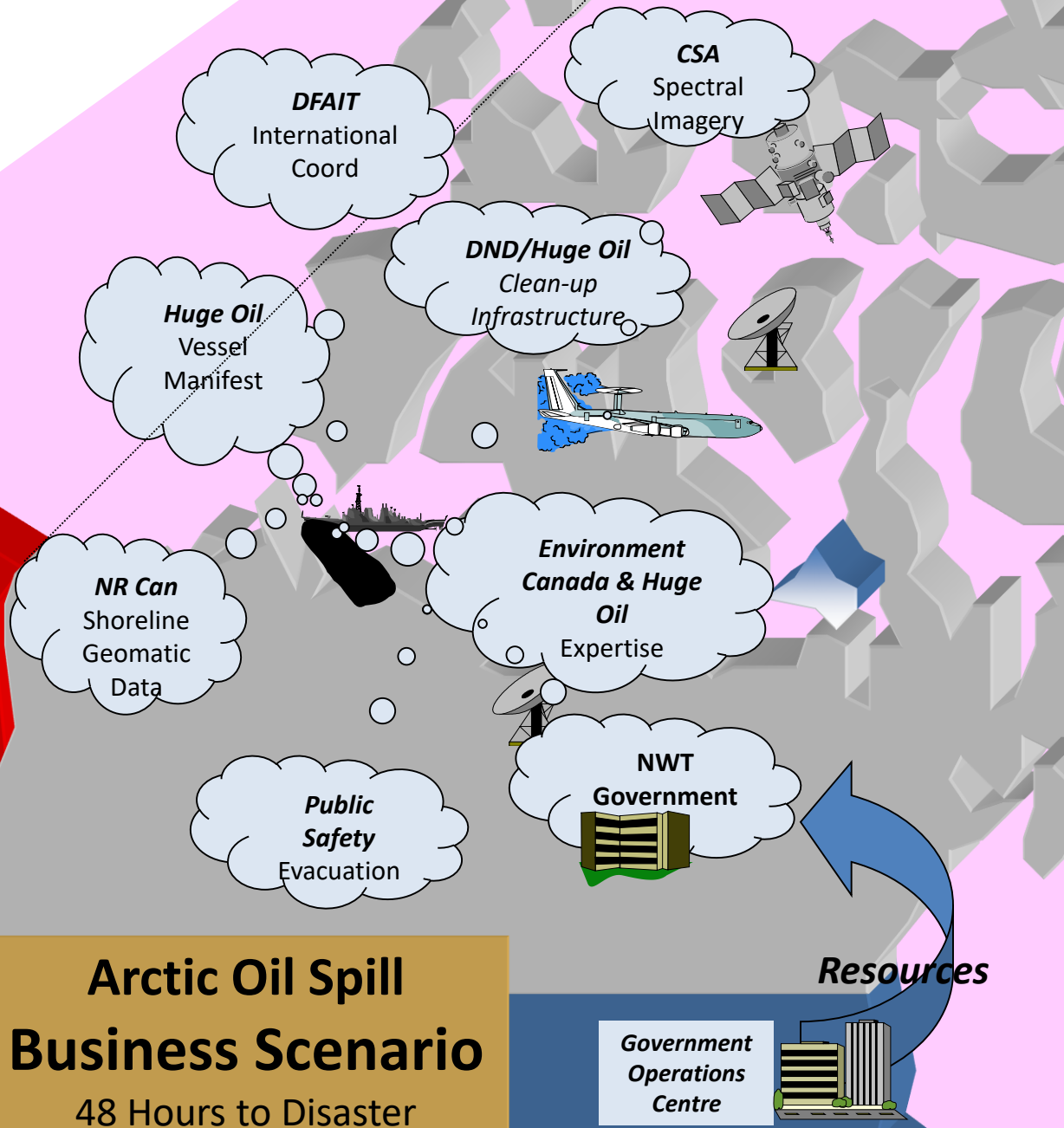
E-Collaboration

**Shared Situational
Awareness**

Quality Information

Arctic Oil Spill Business Scenario

48 Hours to Disaster

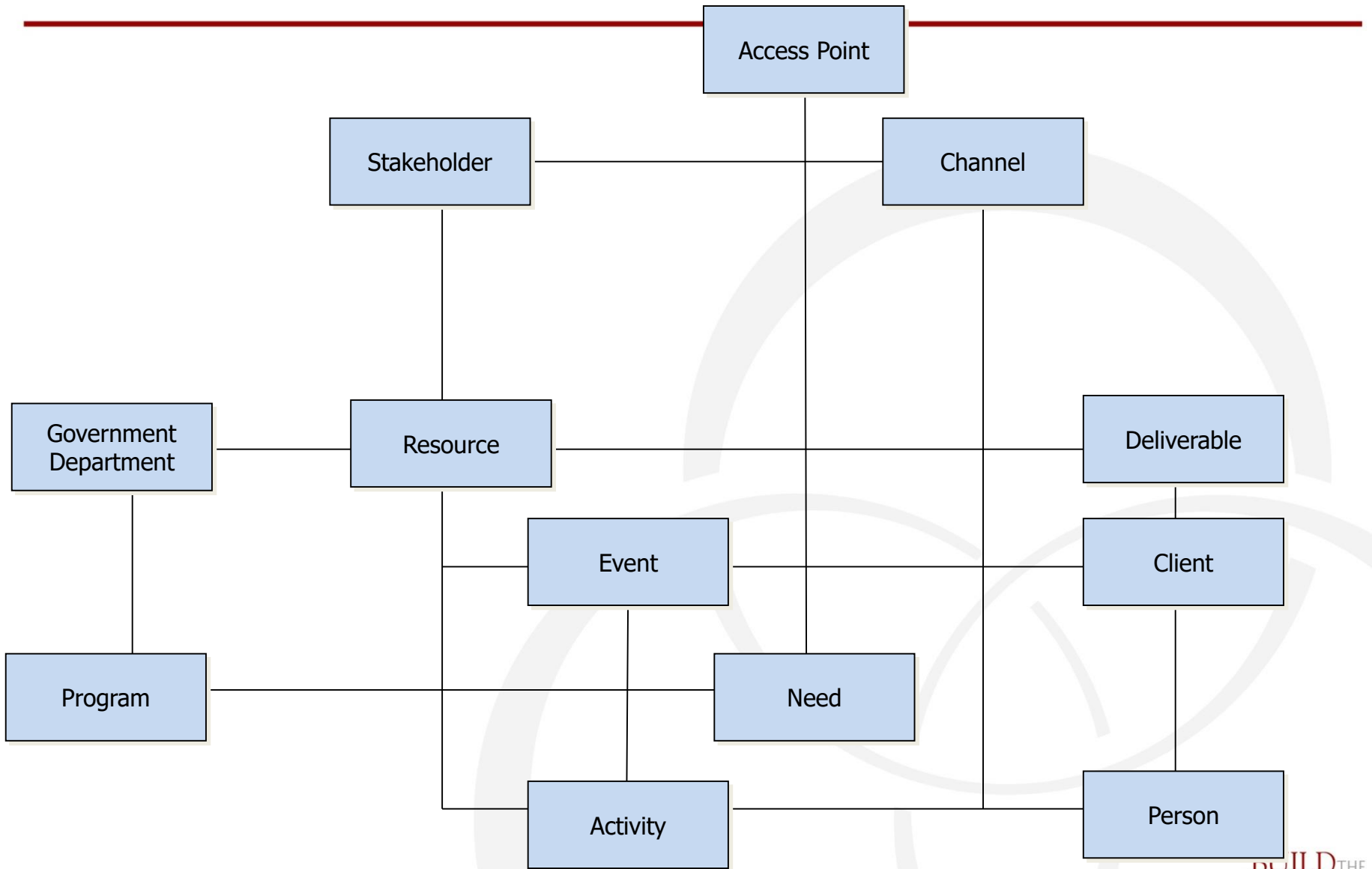


Resources

**Government
Operations
Centre**

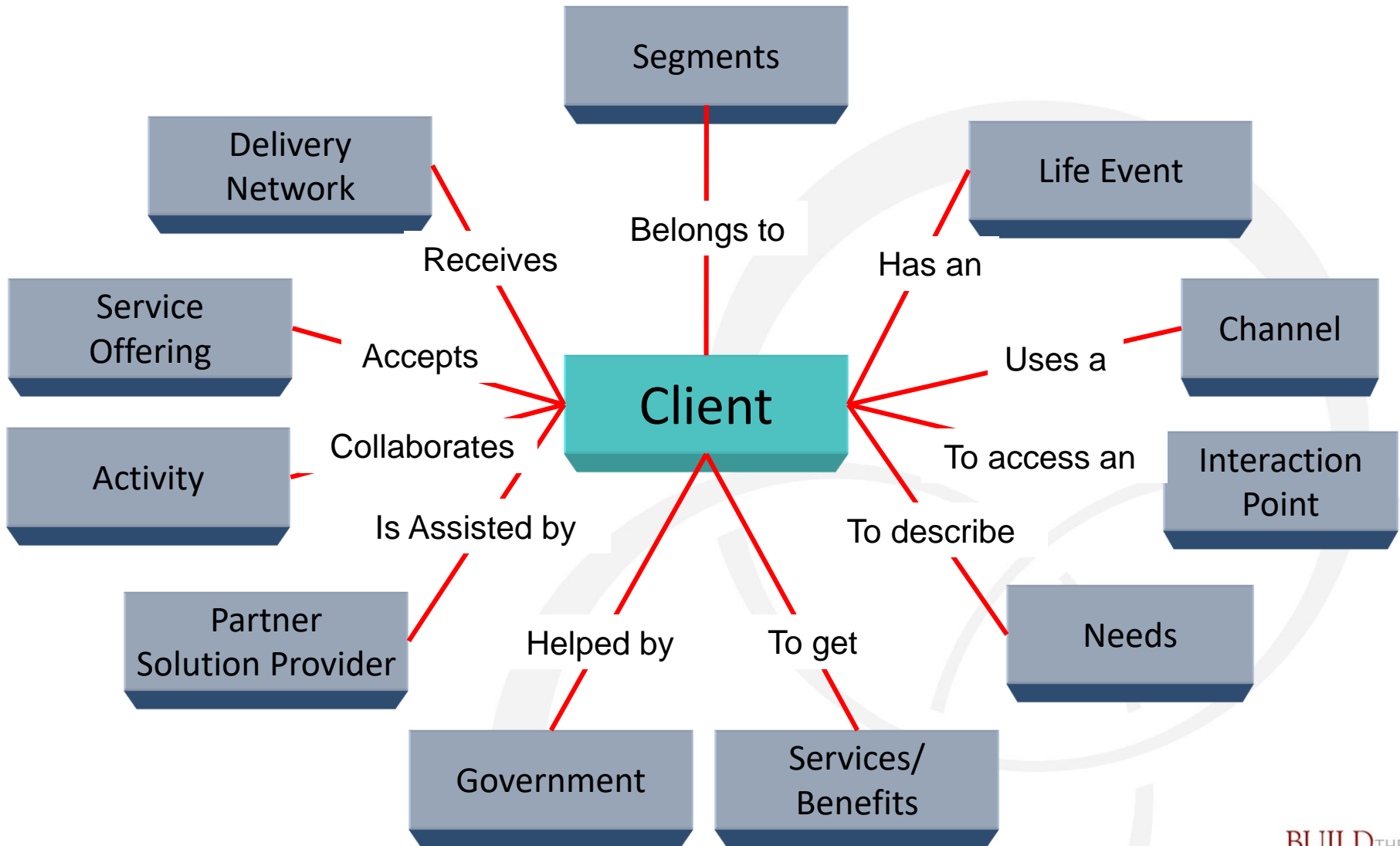


Contextual Information Model – Executive View



Modernizing Service to Canadians

Life Event Based Service Delivery



- When quantitative thinking does not work
- ***“Not everything that can be measured matters and not everything that matters can be measured”***
- ***“When dedicated to the quantity-driven approach of scientific inquiry, we chronically overlook valuable qualitative aspects of the world.”***

Empirical Research

Hilary Austen "The Art of Work: Embracing Artistic Enquiry to Create Value" ©2014 Rotman

Management Fall Issue

Basic Artistic Method

Experience Qualities

Generate Possible Relationships
Between Qualities

Undergo Experience to Create
Further Understanding

Create and Connect Qualities as
Experience Tests Understanding

Begin Shaping Understanding into
an Expressive Form

Present Understanding in a
Qualitative, Expressive Form

Basic Scientific Method

Ask a Question

Do Background Research

Construct a Hypothesis

Conduct Experiments and Collect
Qualitative Data

Analyze Results and Draw
Conclusions

State Results in Standardized
Formats

Red Ocean

Compete in Existing Market Space

Beat the Competition

Exploit Existing Demand

Make the Value-Cost Trade-off

Align the Whole System of a firm’s activities with its strategic choice of differentiation or low cost

Blue Ocean

Create Uncontested Market Space

Make the Competition Irrelevant

Create and Capture New Demand

Break the Value-Cost Trade-off

Align the whole system of a firm’s activities in pursuit of differentiation and low cost

Profit & Growth - Consequences of Blue Oceans

(“Blue Ocean Strategy” Kim and Mauborgne HBR Press – 2015 P. 7)

*Business
Launch*



*Revenue
Impact*



*Profit
Impact*



*Launches Within
Red Oceans*

*Launches For
Creating Blue
Oceans*



High Level Findings - Organizational Tensions to be Addressed

Reliability Thinking

Exploiters

Management

Risk Averse

Efficient

Analytical Insights

Data Rich

Perfection

Prescriptive

Red Ocean

Stable

Extractive

Validity Thinking

Explorers

Leadership

Risk Managed

Effective

Intuitive Insights

Data Poor

Innovation

Descriptive

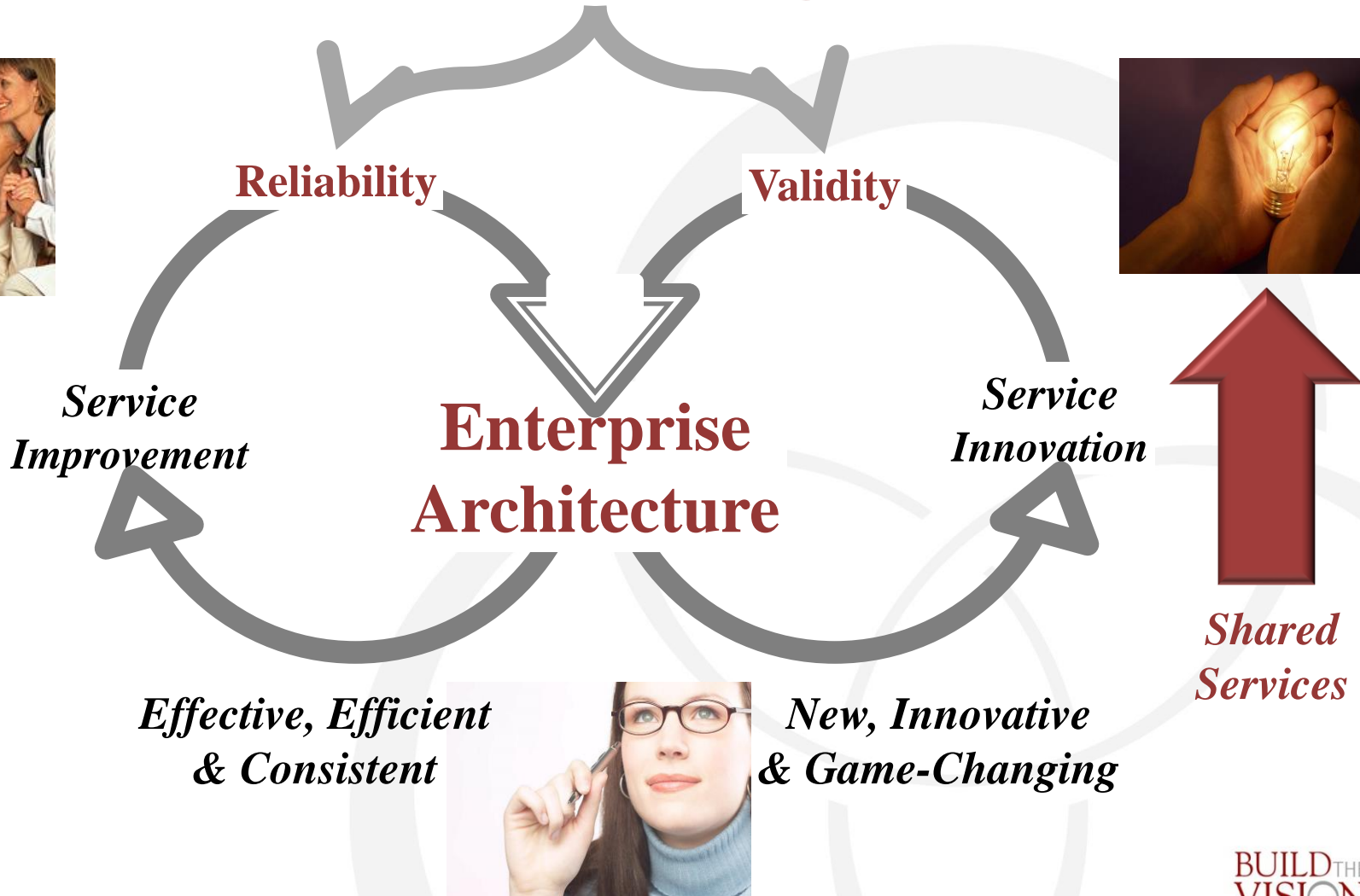
Blue Ocean

Agile

Inclusive

The Necessary EA Mindset¹

Business Design



1. – “The Design of Business: Why Design Thinking Is the Next Competitive Advantage”, Roger Martin, Harvard Business Press ©2009

Enterprise Architecture Thinking

Business Design

*Analytical
Thinking*

*Intuitive
Thinking*

*Reliability
100%*

*Validity
100%*



Concluding Material

- ***Business Design and EA / Systems Engineering are similar BUT Appeal to different stakeholders***
- ***Roots***
 - *Business Design comes from Business*
 - *EA/Sys Engr comes from IT/Systems Engineering*
- ***Business Design will involve a new set of business skills***
 - *Must be understood by all Enterprise Architects and Domain Architects*
 - *Intuitive Thinking complements standard Analytical Thinking*
- ***Business Design is a solid way to:***
 - *Get a cycle of continuous innovation started*
 - *Get business to take ownership of EA and develop the business architecture*
- ***Way Ahead***
 - *Bring Business Design Thinking into EA/Systems Engineering*
 - *Incorporate Business Design into Corporate EA Services especially business architecture*

Selected Readings

- ***“The Opposable Mind: Winning Through Integrative Thinking”***
Roger Martin ©2009 Roger Martin, Harvard Business Press
- ***“The Design of Business: Why Design Thinking is The Next Competitive Advantage”***
Roger Martin ©2009 Roger Martin, Harvard Business Press
- ***“Design Works: How to Tackle Your Toughest Innovation Challenges Through Business Design”***
Heather Fraser Edition 1 ©2012 Edition 2 ©2019 Heather Fraser, University of Toronto Press (Rotman-UTP Publishing)
- Rotman Management – The Magazine of the Rotman School of Management, University of Toronto
- ***“Designed for Digital”*** – Jeanne Ross, Cynthia Beath and Martin Mocker – MIT Press – September 2019
- ***“Blue Ocean Strategy”*** W. Chan Kim and Renée Mauborgne ©2015 Harvard Business Review Press

Questions ?

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