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Next Generation Enterprise Visualization and Analytics

Value Network Definitions

▸ **Value Networks** are roles, interactions and relationships that generate economic, social or environmental value. Any purposeful organization can be understood as a value network.

▸ **Value network analysis (VNA)** is a methodology for understanding, using, visualizing, optimizing internal and external business value networks and complex economic ecosystems.
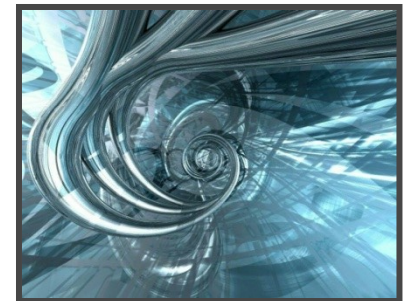
What is the Problem?

▸ Today's business tools are process-centric.

▸ Processes failing for complex industries, products, and markets.

▸ Process and engineers strive for consistent, predictable outcomes by driving out variation.

In complex environments, variation is not only a given – it is desirable. Variation supports innovation and flexibility.

What is the Opportunity?

▸ Value networks augment and expand the process view and evoke new discoveries in the business models.

▸ Value networks focus on key activities, networks, roles and relationships that build and optimize network business – which are often overlooked.

▸ Value networks aid business execution, reduce cost and expand performance.

People are Saying…

Jon Fredrik Baksaas

"*In several* strategic *situations the* value network *effect perspective rather than a value chain perspective has* made the difference.*"*

– President & CEO, TELENOR

Carol Rozwell

"Good ideas *can emerge from an inventor working solo, but more often they are a result of* collaboration throughout *an organization and its* value network.*"*

– VP and Distinguished Analyst, GARTNER

Dr. Henning Kagermann

"Software *must be designed to allow, and where possible support, rapid modification of sophisticated inter–company processes. It must be* capable of mapping *not only value chains but* entire value networks *in order to keep pace with changing conditions."*   – Chairman and CEO, SAP AG

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What it Provides

- The ability to model and comprehend complex business relationships
- The capacity to visualize, plan, and implement organizational performance and development solutions
- A faster and flexible approach to enhancing productivity
- A non-linear yet rigorous management approach based on living systems theory and intangible asset utilization
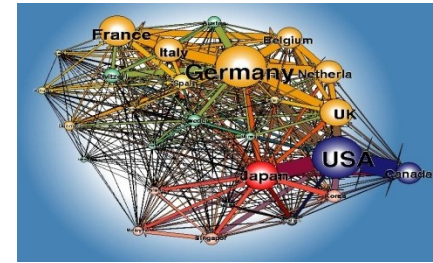
How the Value Network Approach Gets Results

Applied Value Network Analysis

- Endorsed by thought leaders
- Tested and validated
- Integrated with financial and non-financial scorecards 1997 and value conversion
- First used in research for the book *Digital Capital*, Tapscott, Ticoll and Lowy 2000
- In use @ Boeing, Cisco, Telenor, Mayo Clinic, Rolls Royce Marine Engine, etc.
- Used to improve global action networks in Used to evaluate the impact of billions in ICT investment in Europe

Organizations are Living Systems

- They have a networked pattern of organization, specifically an ecosystem of intelligent networks
  - They have cognition, perception, and complex responses
  - They continually renew and re-create themselves
- Re-create themselves through continual exchanges of...
  - Tangibles (goods, services, revenue)
  - Intangibles (knowledge, benefits, support)

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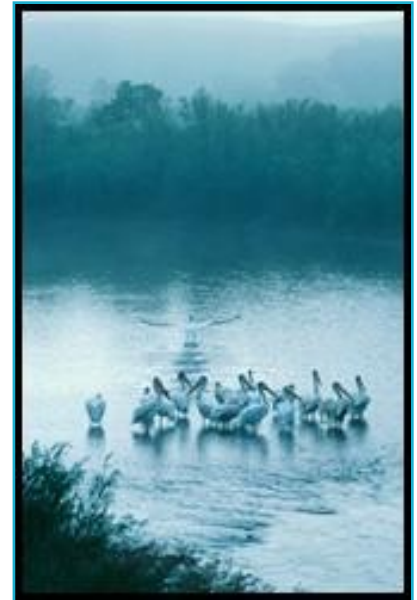
Value Creation is the Exchange

Tangible Exchanges

Goods, services, revenue (traditional value chain). All contractual or mandated activities that directly generate or deal with revenue.

Intangible Exchanges

Knowledge
Strategic information, collaborative design, planning knowledge, process knowledge, policy development, etc.

Benefits or Favors
Benefits that go beyond actual service such as exchanging business contacts, image enhancement, recognition, co-branding opportunities etc.

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Value Network Modeling Basics

▸ Nodes represent participants (real people), and the roles that they play.

▸ Solid green lines show tangible (formal, contracctual) deliverables being transacted.

▸ Dashed blue lines show intangible deliverables being transacted.

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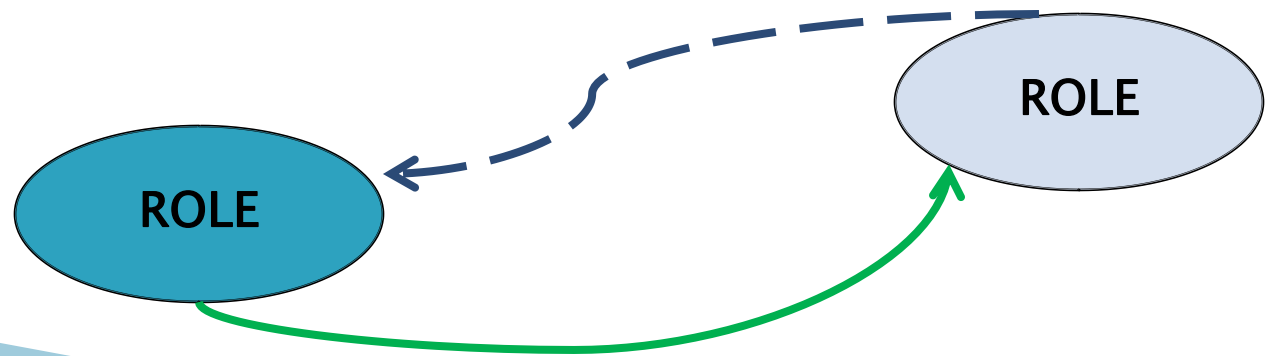
Cisco Traditional Transactions

Tangibles
Intangibles

MANUFACTURERS & ASSEMBLERS

CUSTOMERS

DISTRIBUTORS

CISCO

SALES CHANNELS

OEMs

Product

Product
Orders

Product
Payment

Payment

Orders

Product

Payment
for parts

Product Info

Orders

Parts

Payment
for Parts

Product
Info

Service
Support

Special
Terms

Orders

Orders

Commissions

Digital Capital, Tapscott, Ticoll, Lowy (2000)
Future of Knowledge, Allee (2003)

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Cisco Intangible Exchanges

Digital Capital, et al (2000)
Future of Knowledge, Allee (2003)

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Value Impact Analysis

Impact Analysis

Tangible impact?

Intangible impact?

Perceived value?

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Value Creation

Value Creation Analysis

Value Networks Fill the Gap

Organization Chart
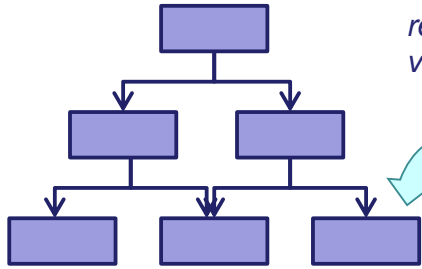
How well is our formal structure resourcing and supporting our value creating networks?

Asset Mgmt

Tangible and Intangible Assets

Financial Assets	Human Competence	Brand and Relationships	Internal Structure

Value Network Analysis

How well are we utilizing assets to create value offerings? How well are we realizing value and growing our Assets?

How well does the Knowledge Network support intangible flows?

Social/Organizational Network Analysis --
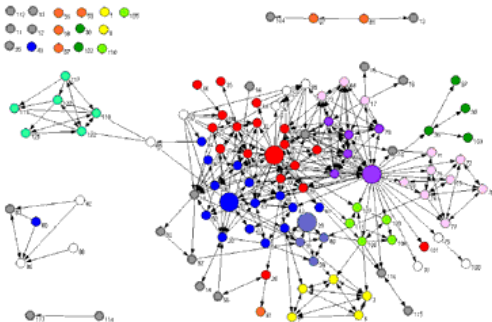
Process Modeling -- Workflow
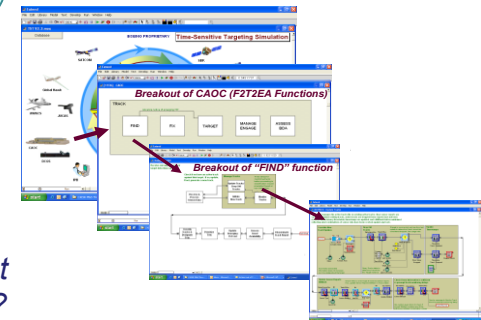
How well do the different flow paths perform ?

Value Network Analysis

- ▸ Fills the managerial gap between processes and the organizational chart
- ▸ Assesses current and future capability for value creation.
- ▸ Aids conversion of financial and non-financial assets, such as intellectual capital, into other forms of value.

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Value Network Analysis

- Supports industry benchmarks.
- Creates robust network business and business networks.
- Provides a powerful language for collaboration.
- Works at every level of organizational and market complexity.

Strategy Model

Value Conversion Depends…

…on exchanges and sequences…

… that leverage assets
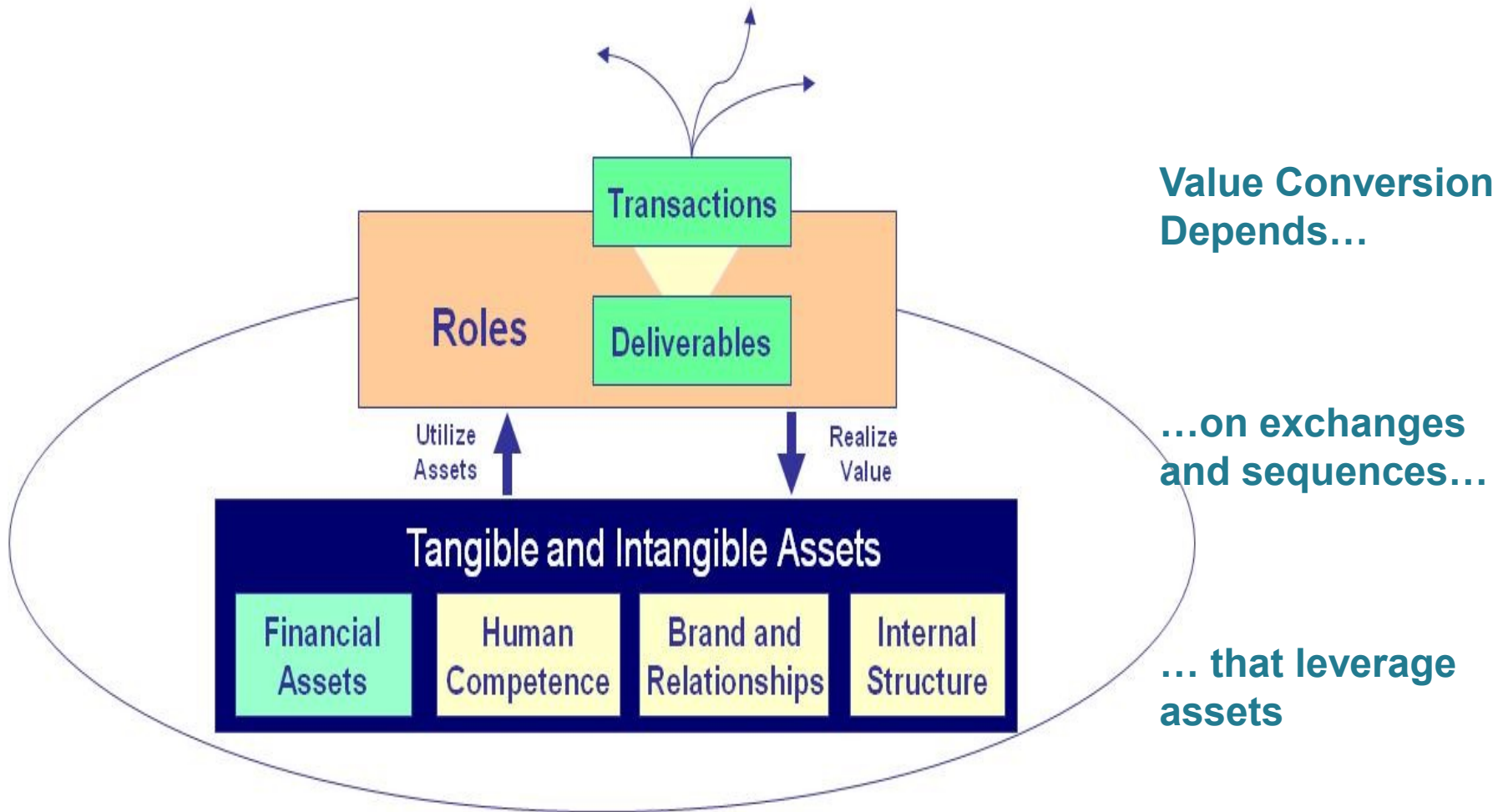
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Examples of Applied Value Network Analysis

Scalability

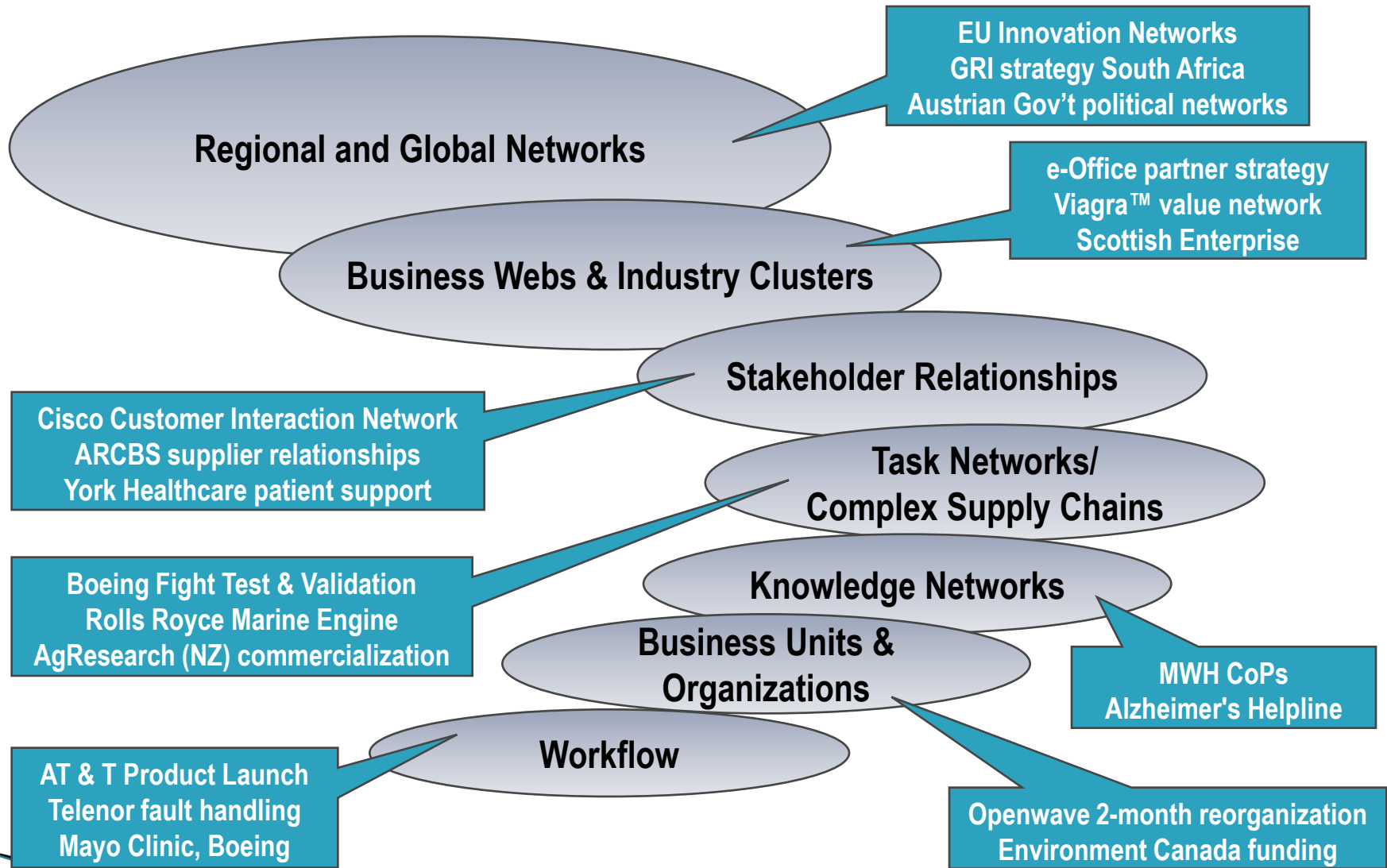**Regional and Global Networks**

EU Innovation Networks
GRI strategy South Africa
Austrian Gov't political networks

Business Webs & Industry Clusters

e-Office partner strategy
Viagra™ value network
Scottish Enterprise

Stakeholder Relationships

Cisco Customer Interaction Network
ARCBS supplier relationships
York Healthcare patient support

**Task Networks/
Complex Supply Chains**

Boeing Fight Test & Validation
Rolls Royce Marine Engine
AgResearch (NZ) commercialization

Knowledge Networks

**Business Units &
Organizations**

MWH CoPs
Alzheimer's Helpline

Workflow

AT & T Product Launch
Telenor fault handling
Mayo Clinic, Boeing

Openwave 2-month reorganization
Environment Canada funding

Benefits

Users reconfigured internal relationships system wide in only two months

- Uncovered inefficient core processes and tasks
- Unblocked structural dams to increase knowledge flows
- Unleashed core value innovation, sustainability and resilience
- Shortened information and feedback loops

Benefits

Users reconfigured internal relationships system wide in only two months

- Enabled a zero productivity hit during reconfiguration
- Deepened understanding of business issues
- Build strong consensus on need for change
- Improved inefficiencies in support services
- Developed new proactive support services
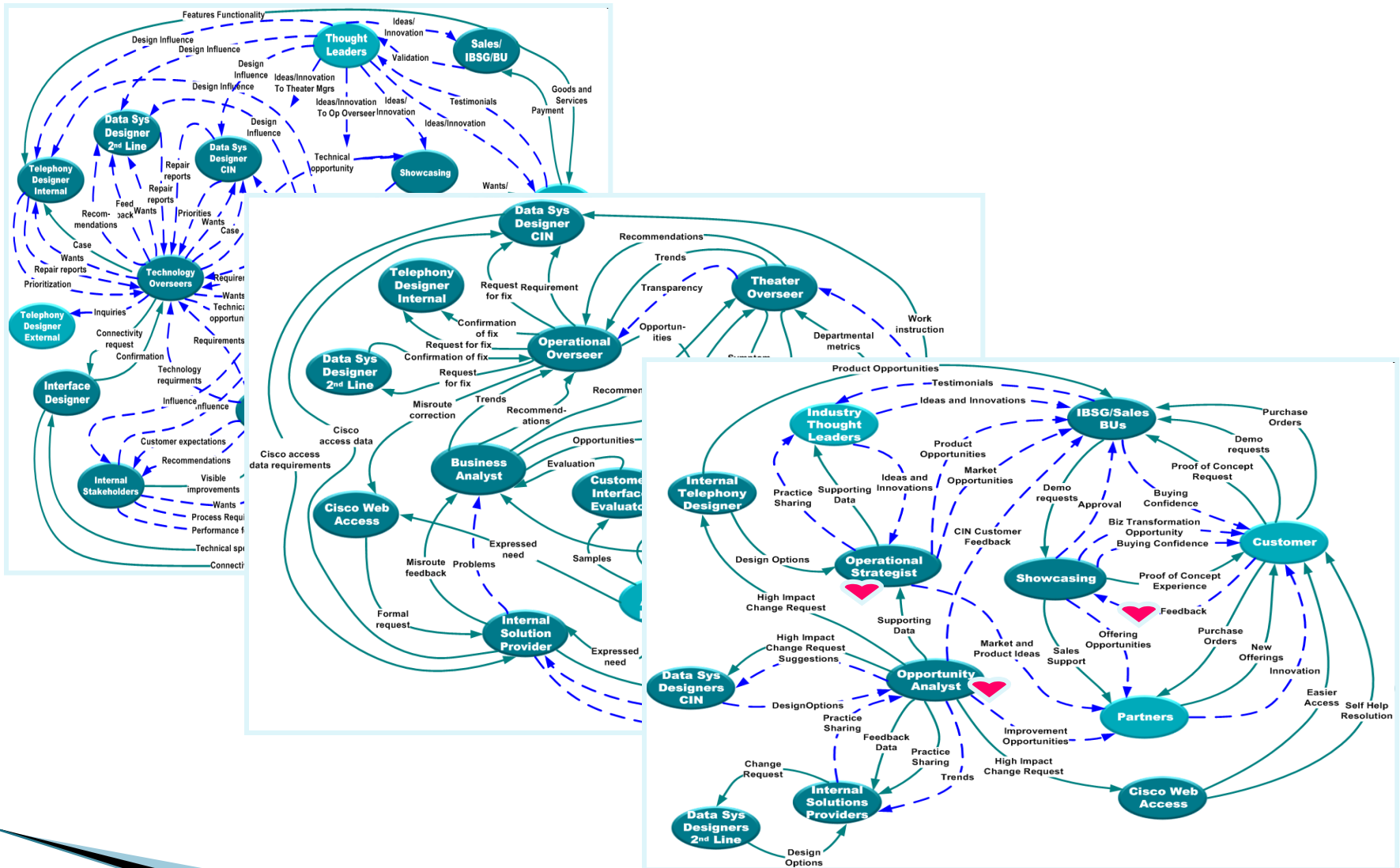- Designed preemptive remote-based support services

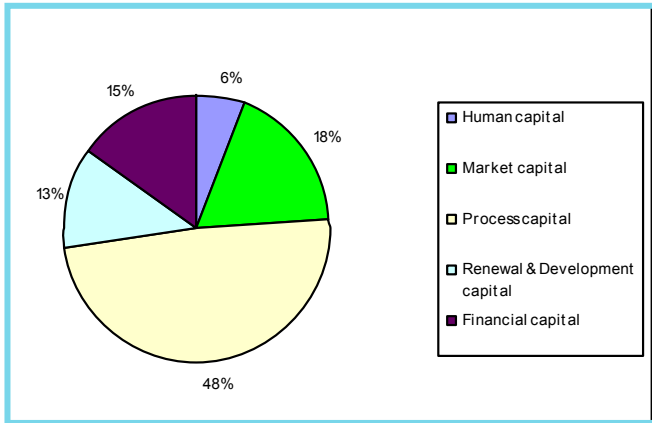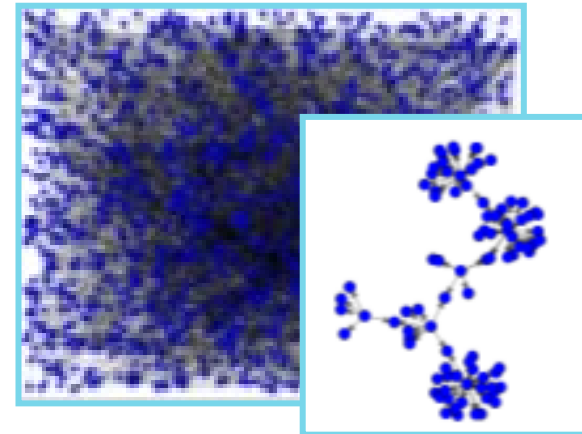# Cisco Customer Interaction

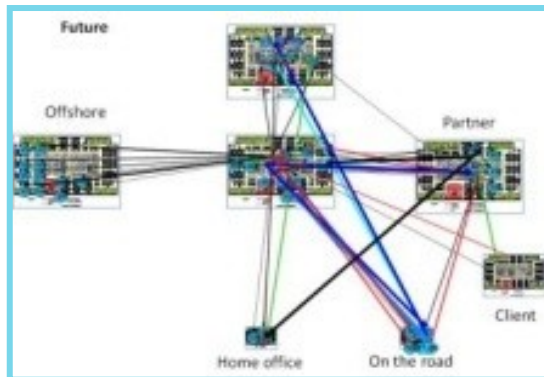**Pattern of Calls**
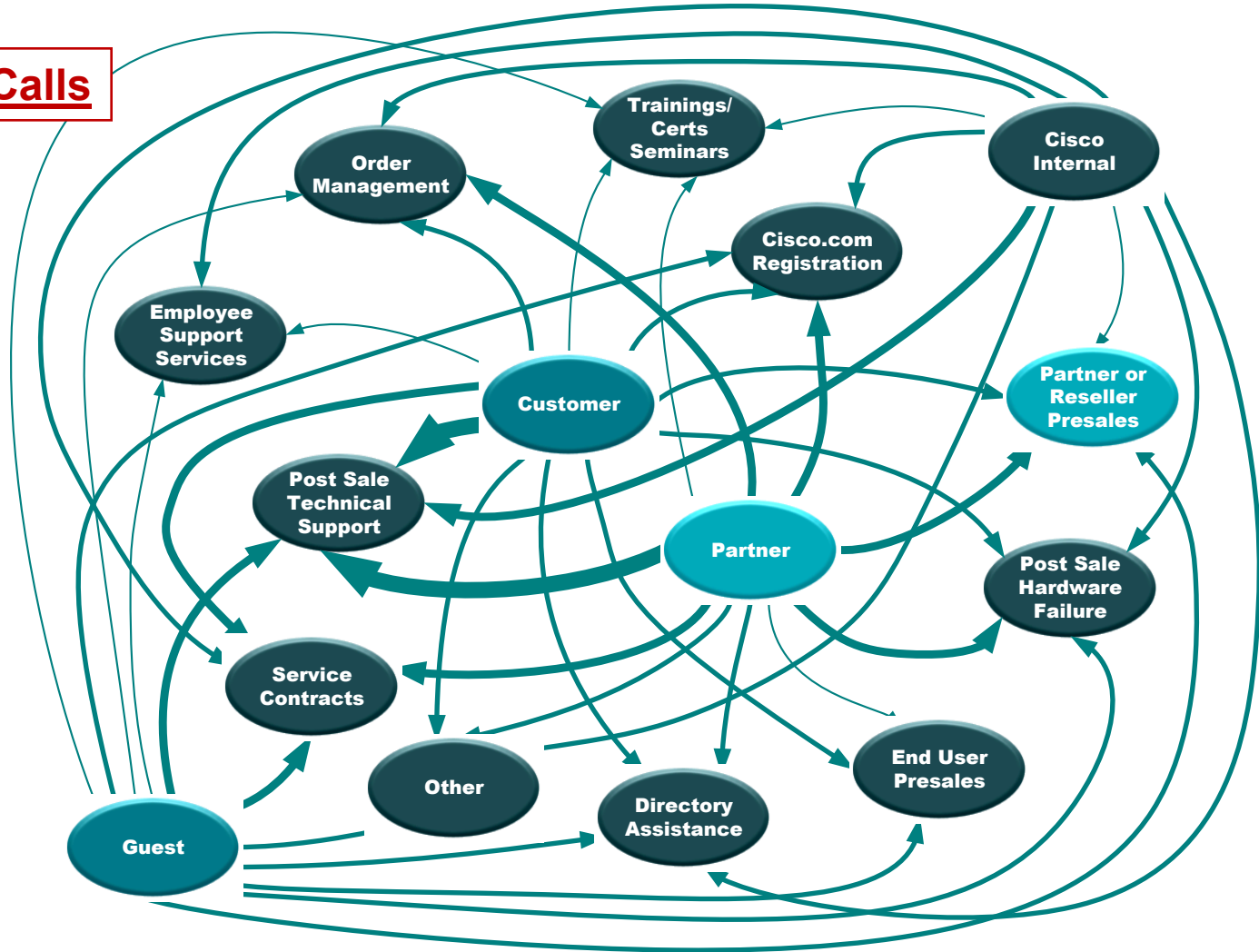
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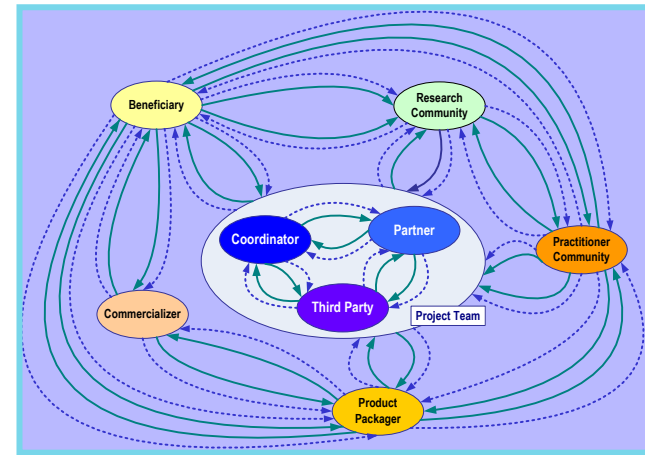
Customer Interaction Support

European Innovation Networks

Asset Generation

Organizational Networks

Inter-Organizational
Value Networks

Network Archetypes

VNA at Boeing

- Boeing Flight Test & Validation.
- Achieved a six fold increase in productivity from testing one airplane a day to six per day.
- Organization of 3500+ people.
- Also used at Boeing in Lean projects, logistics and supply chain.

"Value Network Analysis, through visuals and conversations, helps build and strengthen the relationships and trust that are vital for people working together as a global enterprise….Now that I know the value networks methodology, I would not consider doing a six sigma, lean, or any other kind of project without first doing a VNA to provide the "systems" context for the initiative."
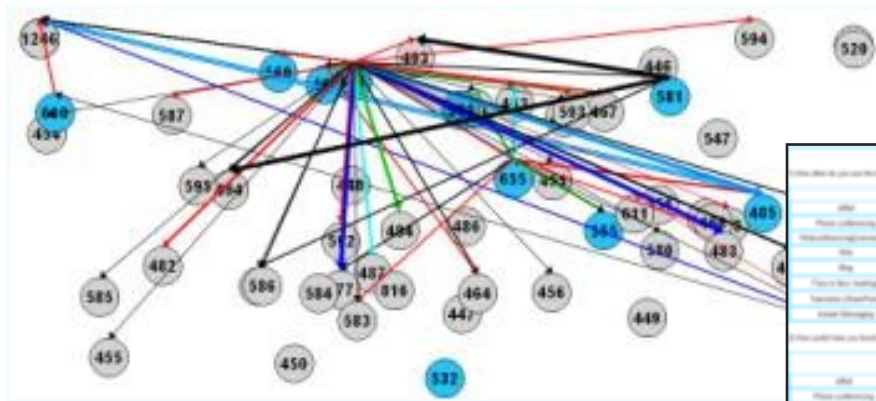
– **Glenda Turner**
Supply Chain Integrator, Value Networks,
Boeing Integrated Defense Systems

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Tools for Value Network Visualization and Analysis

Understand the "As Is" Value Network

▸ Map

▸ Analyze

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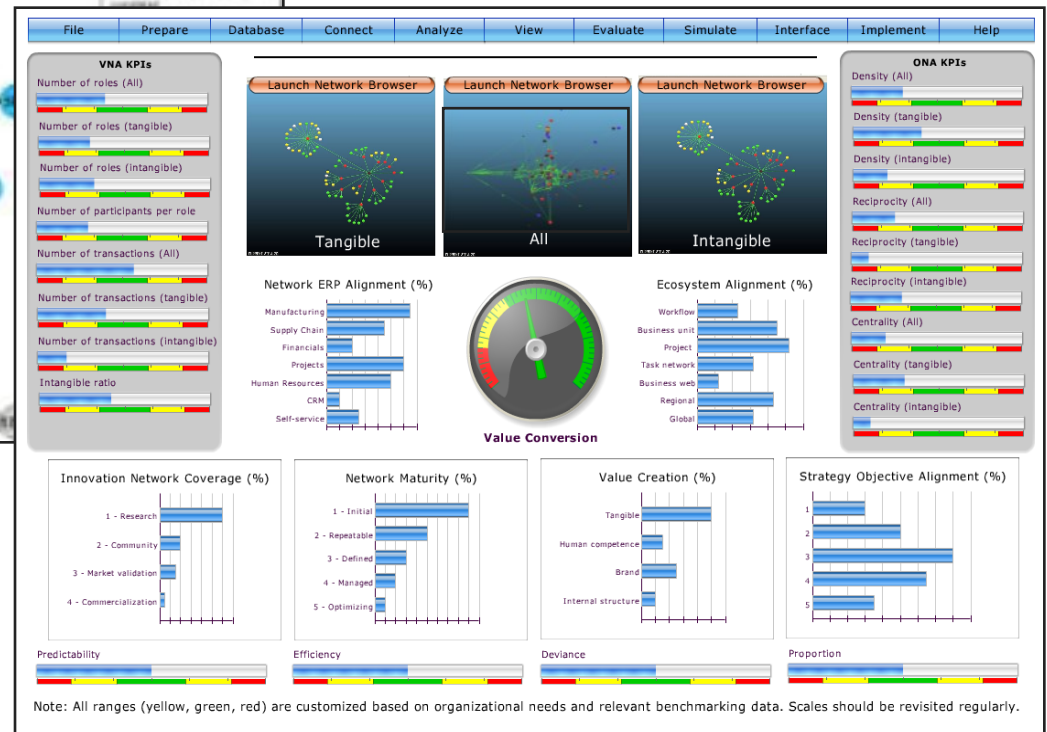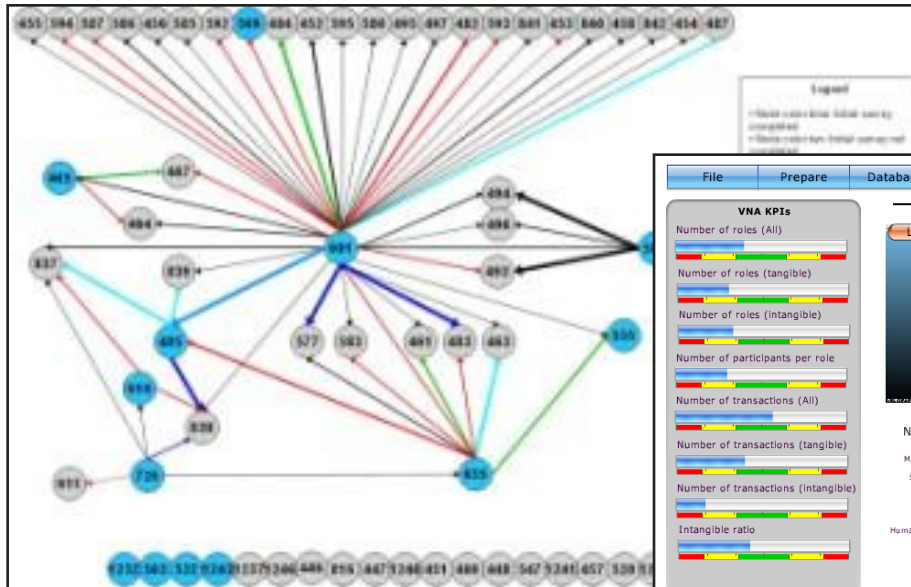
Optimize the Value Network

▸ Optimize

▸ Monitor

Value Network Centric Visualization

▸ To significantly and quickly improve performance across multiple interdependent processes (networks) at low cost by:

- Seeing how people truly get the work done
- Clarifying roles and deliverables
- Making intangibles visible and servicable
- Simplifying complicated contexts and relationships
- Making relationships more transparent
- Revealing opportunities by visualizing value flows
- Easily involving everyone
- Quickly evolving to an expanded language for workflow

VNA Visualization

- ASP Visualization Tools
  - Animated and customized visualizations of workflow for comprehensive business networks
  - One-click visualization and animation of networks
  - Easy to use distribute and edit format
  - One-click merging of networks for aggregate evaluation
  - Advanced (immersive) visualization capability for large data sets
  - Open APIs for connecting into your IS environment
  - Open source widgets for internal customization

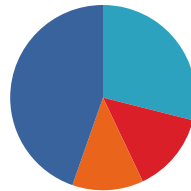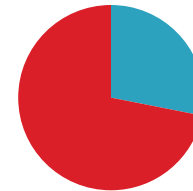# Value Network: All Transactions
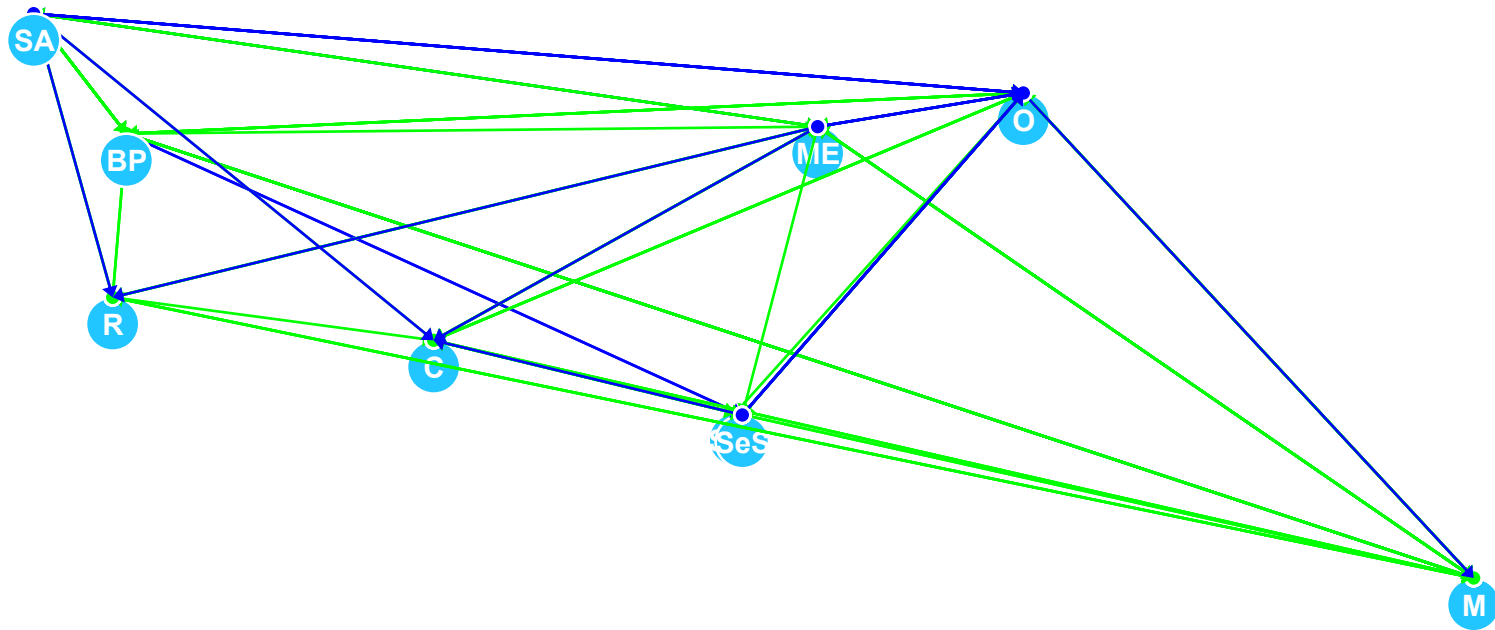
Perceived value
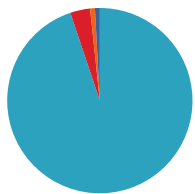
- High
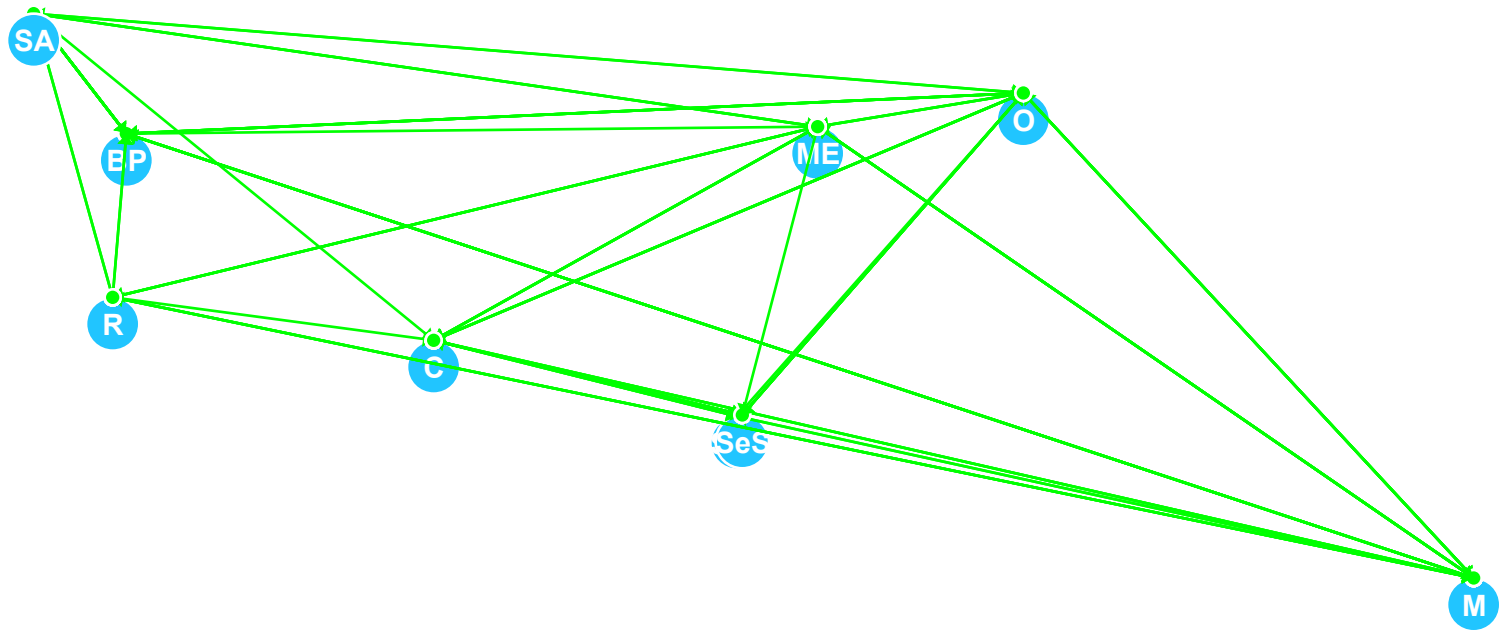- Medium
- Neutral
- Negative

Asset creation

- Financial
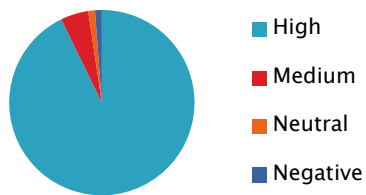- Business relationships
- Competence
- Structure

Asset impact

- Cost
- Benefit

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Value Network: Tangible Transactions

Perceived value
- High
- Medium
- Neutral
- Negative

Asset creation
- Financial
- Business relationships
- Competence
- Structure
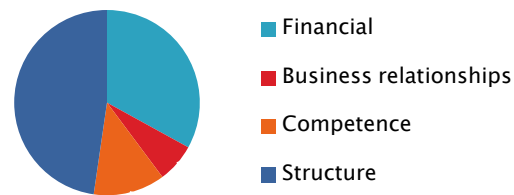
Asset impact
- Cost
- Benefit
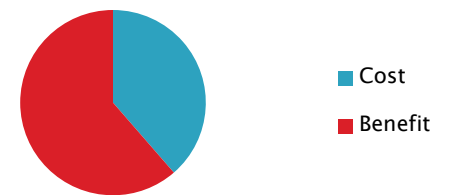
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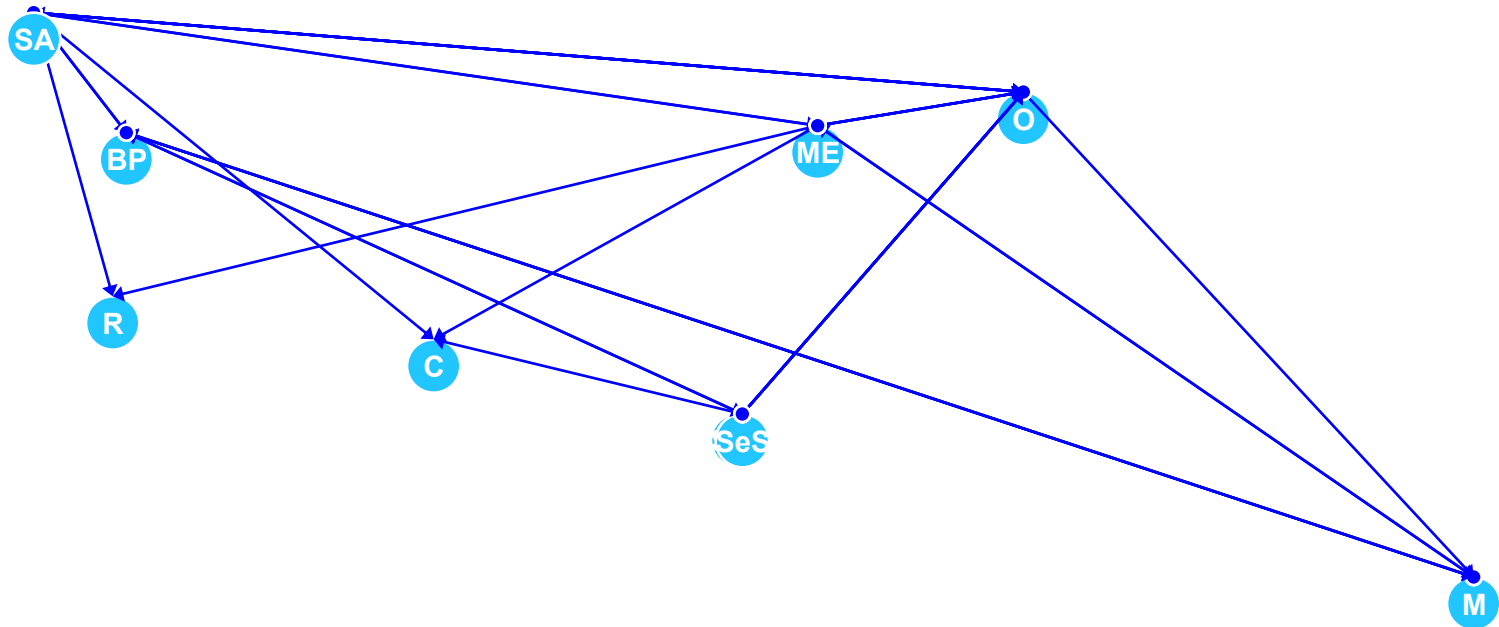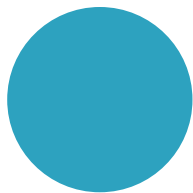
Value Network: Intangible Transactions

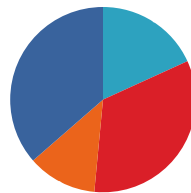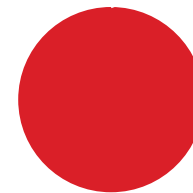*(Click in presentation mode to animate)*

Perceived value

- High
- Medium
- Neutral
- Negative

Asset creation

- Financial
- Business relationships
- Competence
- Structure

Asset impact

- Cost
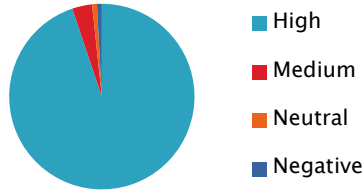- Benefit

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Analytical Tool Suite

- ASP Solution
  - Dashboard for monitoring & benchmarking performance indicators at the individual, group, and network levels
  - One-click analysis reports of key network performance indicators
  - Web based survey tool for network assessment
  - Source data files for corporate reporting
  - Providing vital linkages
    - financial and non-financial assets
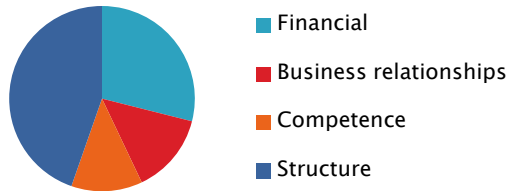   - brand management
    - reputation

Value Network Comparison
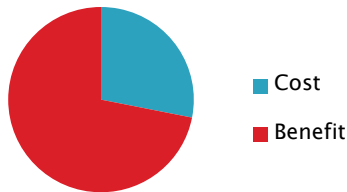
All

Perceived value
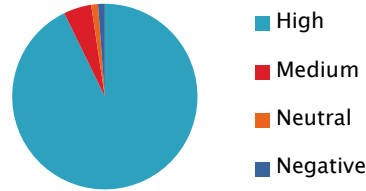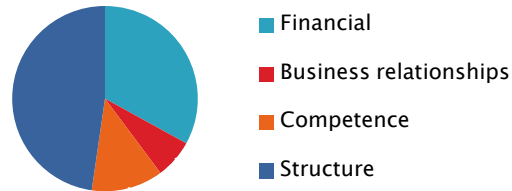

- High
- Medium
- Neutral
- Negative

Asset creation

- Financial
- Business relationships
- Competence
- Structure

Asset impact

- Cost
- Benefit

Tangible

Perceived value

- High
- Medium
- Neutral
- Negative

Asset creation

- Financial
- Business relationships
- Competence
- Structure

Asset impact

- Cost
- Benefit

Intangible

Perceived value

- High
- Medium
- Neutral
- Negative

Asset creation

- Financial
- Business relationships
- Competence
- Structure

Asset impact

- Cost
- Benefit
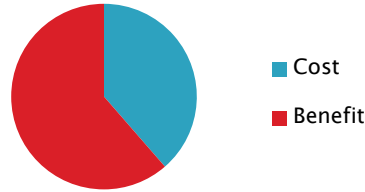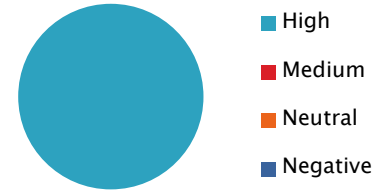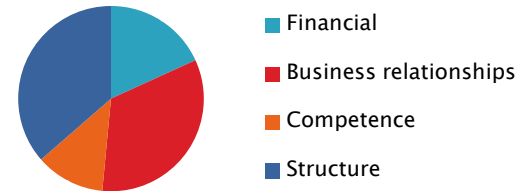
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Value Network Intelligence

- Resilience
- Stability
- Reciprocity
- Risk

- Maturity
- Innovative Capacity
- Asset Utilization
- Strategic Alignment

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Coherence and Integration
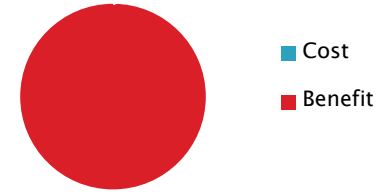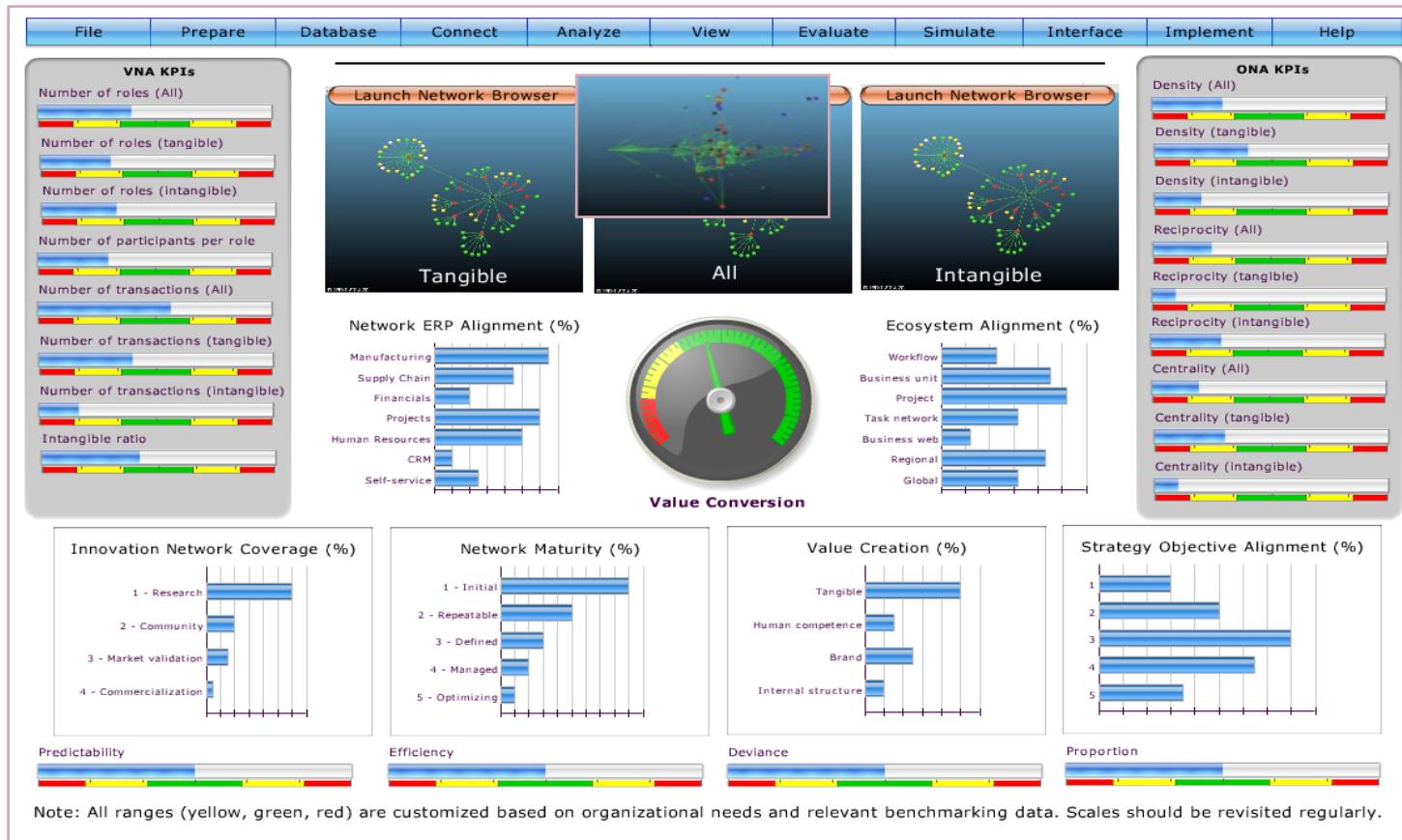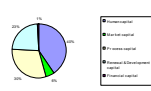
Workflow		Streamlined…	
Asset Generation		Aligned…	
Collaboration Network		Denser…	
Role-based Network		Harmonized…	
Network Outcomes		Optimized…	
Enterprise SOA		Network-centric…	
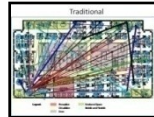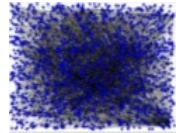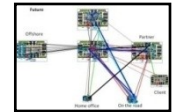
Value Network Intelligence

New Skills

- A new skill set provided through coaching, action learning and qualification programs:
  - Ability to create and edit workflow animations
  - Competence to use network centric performance measures for management interventions
  - Skills to use network centric tools for performance optimization
  - Capabilty to better negotiate needs and expectations
  - Language to clearly define deliverables
  - Capacity to expand accountability to intangibles

New Mindset

▸ A new mindset developed through master classes, scenario workshops, executive briefings and projects:

- A network centric orientation toward workflow
- A role based orientation for individual performance
- A living systems based understanding of organization and network dynamics
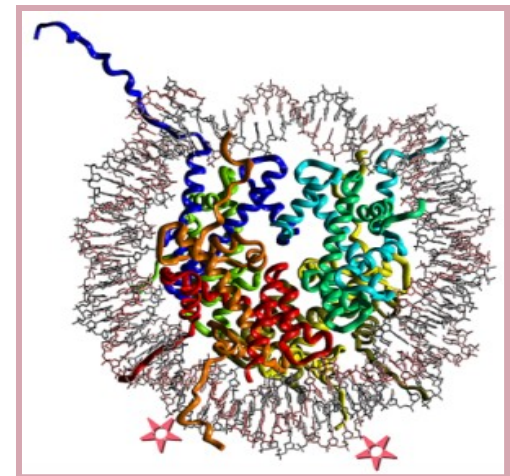
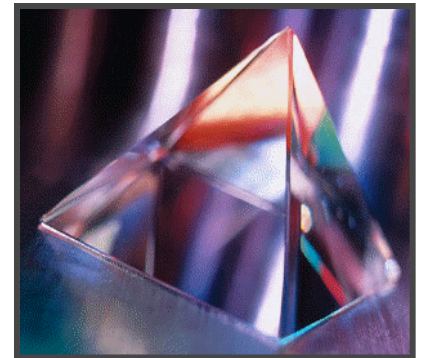# Why the Value Network Approach Works
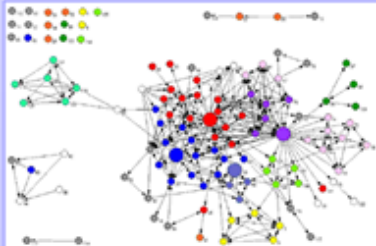
Value Network Analysis

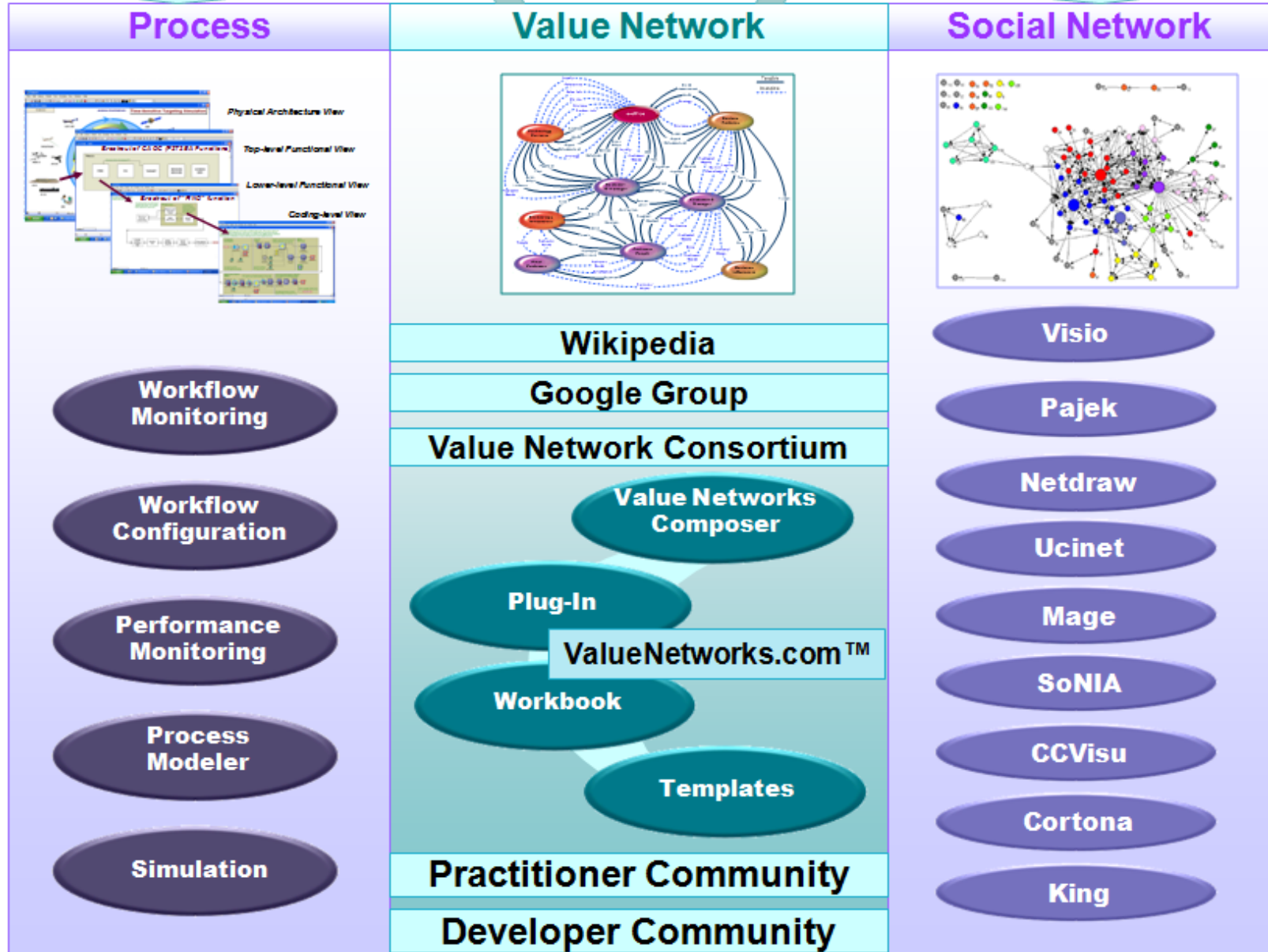▸ Conceptually simple – easy to learn

▸ Fast – achieves breakthroughs in hours

▸ Robust – links network activity to financials

▸ Visual –Maps and analytics

▸ Integrative – Finds whole system patterns

▸ Effective – Focused on people

▸ Comprehensive – defines the business transactions, process and network

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Comparison of Business Methods

Process	Value Network	Social Network
Based on mass production principles.	Based on living systems theory.	Based on human dynamics.
Linear, sequential, mechanistic.	Shows whole system – people, knowledge flows, *and* processes.	Shows social relatio-ships and interactions.
Events and functions are central (*not* people or knowledge flows).	Puts *people* and roles at the center of the action.	Shows communication and knowledge flows.
Shows business transactions.	Shows how knowledge and other intangibles create value.	Focus is on people – good for locating expertise.
Works at multiple levels.	Reveals dependencies in business transactions	Does *not* typically show business processes.
Requires an ordered environment.	Fast *and* robust – works at multiple levels.	All links denote the same relationship.

Hierarchical Model Design

Physical Architecture View
Top-level Functional View
Lower-level Functional View
Coding-level View

Comparison of Business Tools

Process	Value Network	Social Network
	Wikipedia	**Visio**
Workflow Monitoring	**Google Group**	**Pajek**
Workflow Configuration	**Value Network Consortium**	**Netdraw**
Performance Monitoring	**Value Networks Composer**	**Ucinet**
Process Modeler	**Plug-In**	**Mage**
	ValueNetworks.com™	**SoNIA**
	Workbook	**CCVisu**
Simulation	**Templates**	**Cortona**
	Practitioner Community	**King**
	Developer Community	

Consortium Support at www.value-networks.com

Value Network Modeling Language
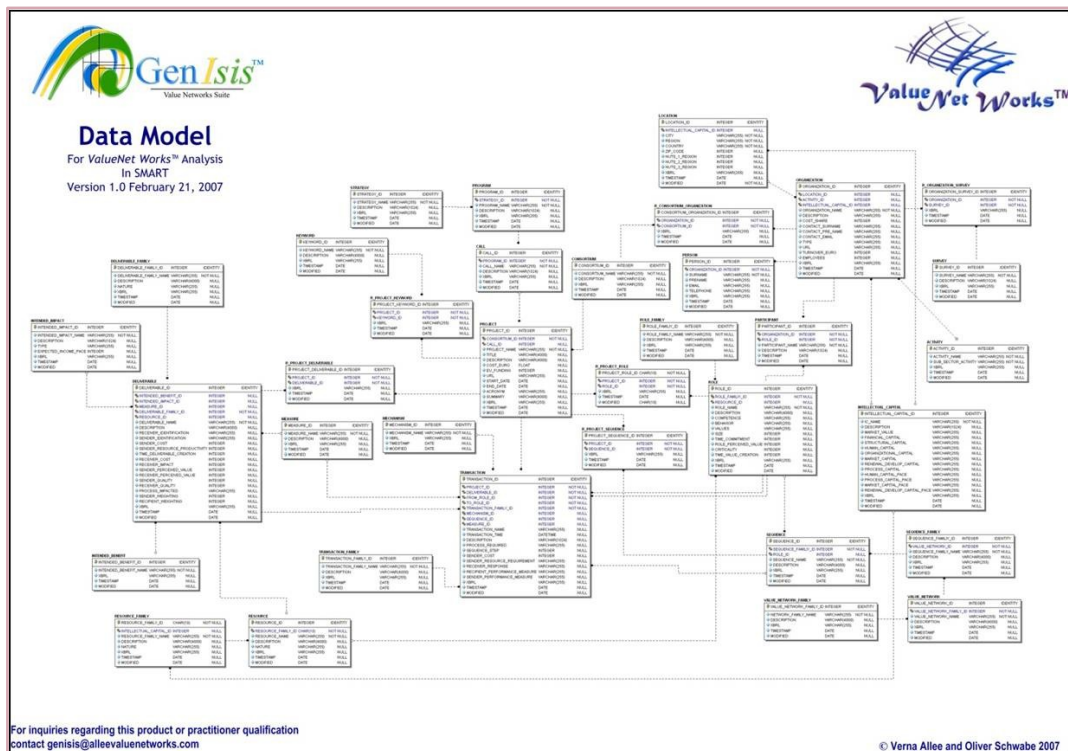
Integrates Multiple Data Sources

Vision/Mission

Systems/data integration/ aggregation

Strategy **Leadership**

Guidance

External Data Analysis Planning

Administration **Reporting** **Controlling** **Management**

R&D Production Marketing Sales Customer Service

Systems/data aggregation/integration
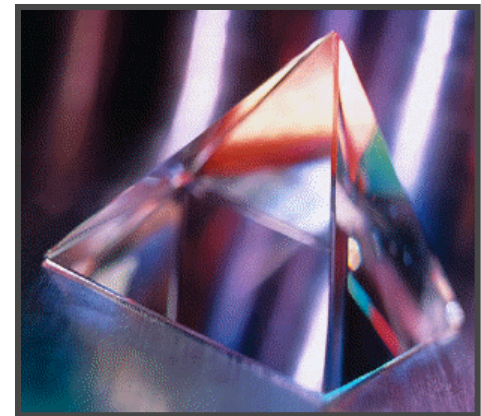
Finance **Human Resources** **IT Systems**
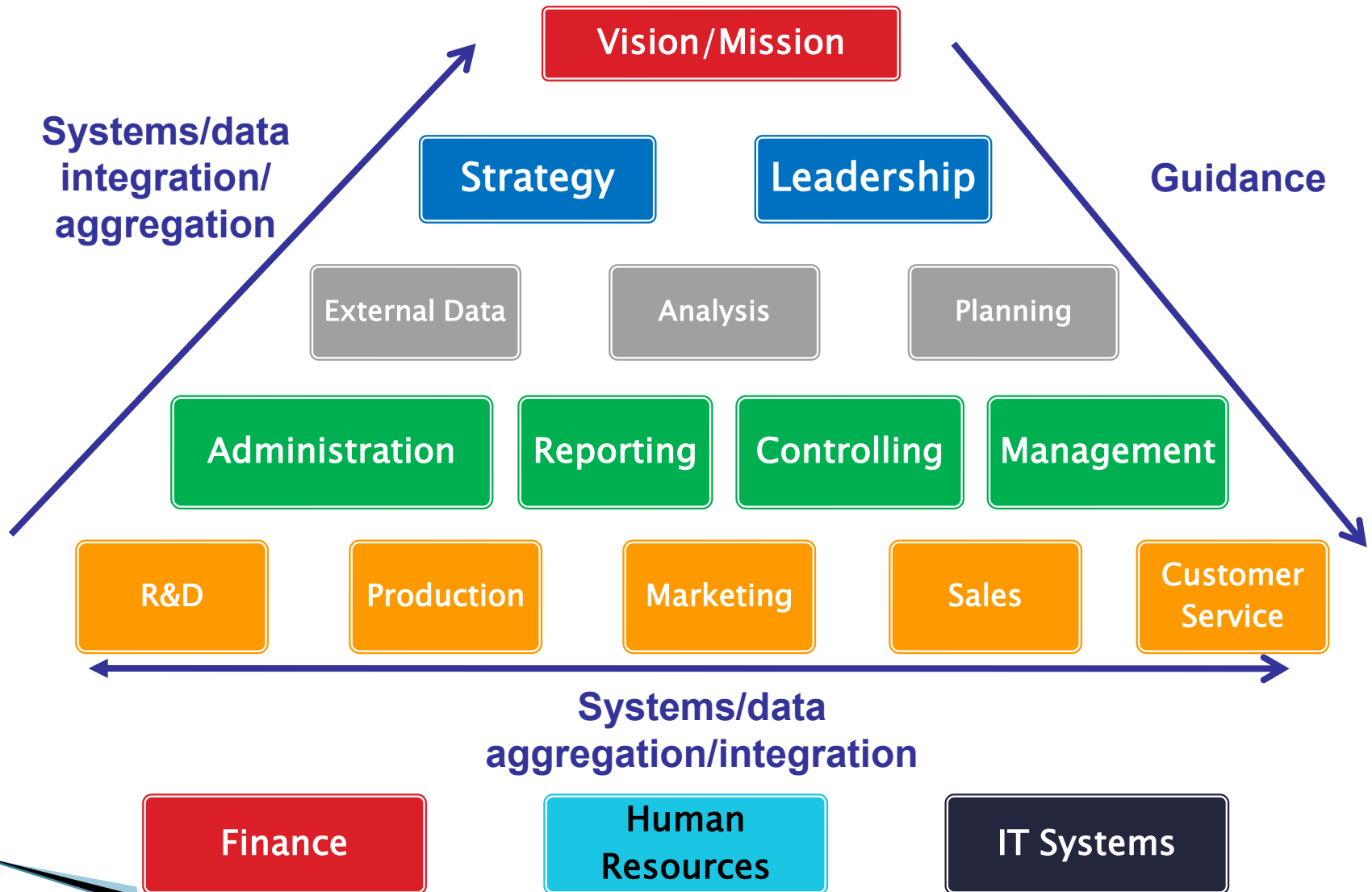
Tool Supported Implementation

- ▸ Educate management
- ▸ Map formal processes as value networks using available documentation
- ▸ Identify participants in value network initiatives
- ▸ Coach participants in tools and methods
- ▸ (Web) Survey all participants
- ▸ Expand, validate and enrich current state understanding

Tool Supported Implementation

▸ Visualize, simulate and evaluate future value network

▸ Optimize future state value network

▸ Identify change measures

▸ Simulate change measure impact

▸ Modify optimized flow paths with redesigned processes

▸ Implement new processs with IS support and enablement

▸ Monitor new process
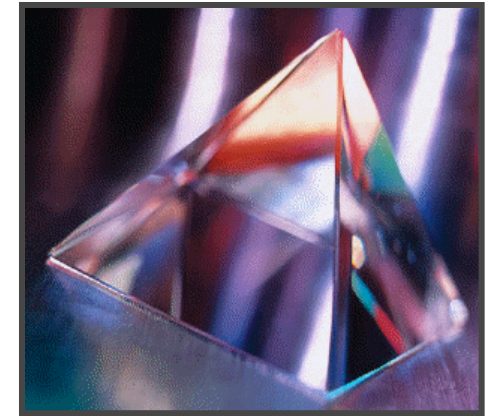
Visualization Tools

• Real-time generation

• Hyperlink via connectors and spheres to other applications

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