Collaborative Analytics:

Evolving Beyond the Four Walls of the Firm

Mohan Sawhney

Kellogg School of Management

mohan@sawhney.org

2008 Partners Conference

Agenda

- The Collaboration Imperative
- Towards the Collaborative Enterprise
- Collaborative Business Processes
- The Promise of Collaborative Analytics
- Challenges in Implementing Collaborative Analytics
- Making Collaborative Analytics Work

Beyond Intelligence

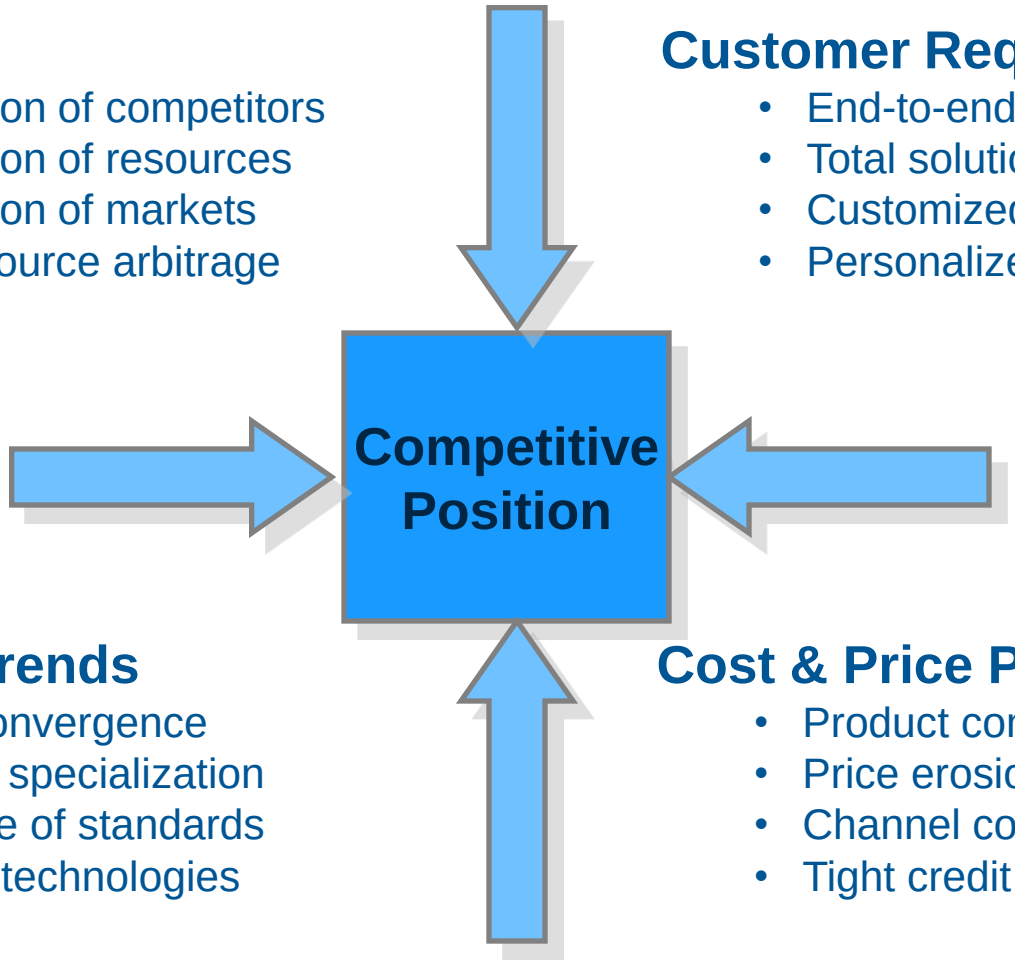
Collaborating to Win

Globalization

- Globalization of competitors
- Globalization of resources
- Globalization of markets
- Global resource arbitrage

Customer Requirements

- End-to-end experiences
- Total solutions
- Customized offers
- Personalized interactions



Technology Trends

- Industry convergence
- Increasing specialization
- Emergence of standards
- Disruptive technologies

Cost & Price Pressure

- Product commoditization
- Price erosion
- Channel consolidation
- Tight credit markets

Collaboration is Pervasive

- Collaborative marketing
- Collaborative innovation
- Collaborative design
- Collaborative planning
- Collaborative sourcing
- Collaborative CRM

Collaborative Innovation: P&G and Clorox with Glad

- Clorox had acquired the Glad brand from SC Johnson but lacked technology to create follow-on products.
- P&G had two technologies that it had successfully tested for baggies and garbage can liners - Press 'n Seal and Force Flex. However, P&G lacked a strong brand and distribution in this category.
- The companies created a Joint Venture in November 2002 where P&G provided the technology and global marketing expertise, while Clorox contributed brand equity and distribution expertise. In plastic film products.
- Total Glad sales doubled within 4 years of the JV being formed, making Glad Clorox billion-dollar brand.

Agenda

The Collaboration Imperative

Towards the Collaborative Enterprise

Collaborative Business Processes

The Promise of Collaborative Analytics

Challenges in Implementing Collaborative Analytics

Making Collaborative Analytics Work

Beyond Intelligence

Beyond the Four Walls: The Collaborative Enterprise

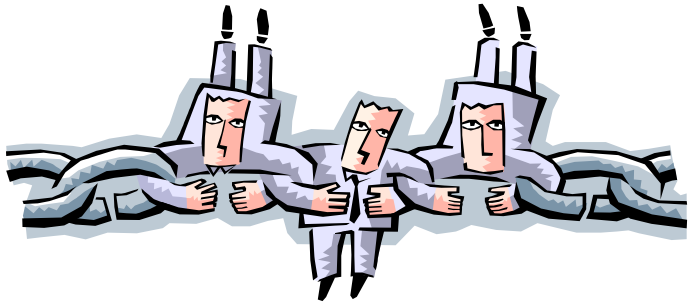
An enterprise where independent entities work together for mutual benefit and for a common purpose by sharing risks, responsibilities and rewards.

- **An organization** for mutual gain where firms retain autonomy, integrity, distinct identity, and the potential to withdraw from the relationship.
- **A focus** on joint planning, coordination, process integration between partners.
- **A set of processes** in which organizations exchange information, alter activities, share resources and enhance each other's capabilities.

Beyond Intelligence

Shift 1: From Cross-Functional to Cross-Enterprise Integration

- **Old Question**: How do we get the various functional areas of our company to work together to supply product to our immediate customers?
- **New Question**: How do we coordinate activities across companies, as well as across internal functions, to create a joint customer offering?



Beyond Intelligence

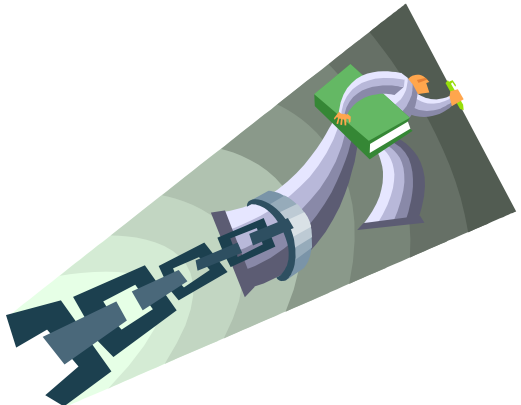
Shift 2: From Physical Efficiency to Market Effectiveness

- **Old Question**: How do we minimize the costs we incur in input materials and components?
- **New Question**: How do we create supply partnerships that will reduce total cost to customers and expand our markets?

Beyond Intelligence

Shift 3: From Supply Focus to Demand Focus

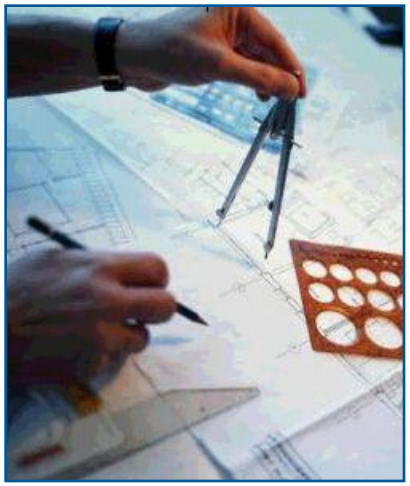
- **Old Question**: How can we improve the way we supply products in order to match supply and demand better, given the demand pattern?
- **New Question**: How can we get earlier demand information or affect the demand pattern to match supply and demand?



Beyond Intelligence

Shift 4: From Single-Company Product Design to Collaborative Product, Process and Supply-Chain Design

- **Old Question**: How should our company design products to minimize product cost?



- **New Question**: How should collaborators design the product, process and supply chain to minimize total costs for the network?

Beyond Intelligence

Shift 5: From cost Reduction to Value Proposition Innovation

- **Old Question**: How can we reduce our company's production and distribution costs?
- **New Question**: What new offers, operations and business models would lead to a breakthrough in customer value?

Beyond Intelligence

Agenda

The Collaboration Imperative

Towards the Collaborative Enterprise

Collaborative Business Processes

The Promise of Collaborative Analytics

Challenges in Implementing Collaborative Analytics

Making Collaborative Analytics Work

Beyond Intelligence

Collaborative Business Process

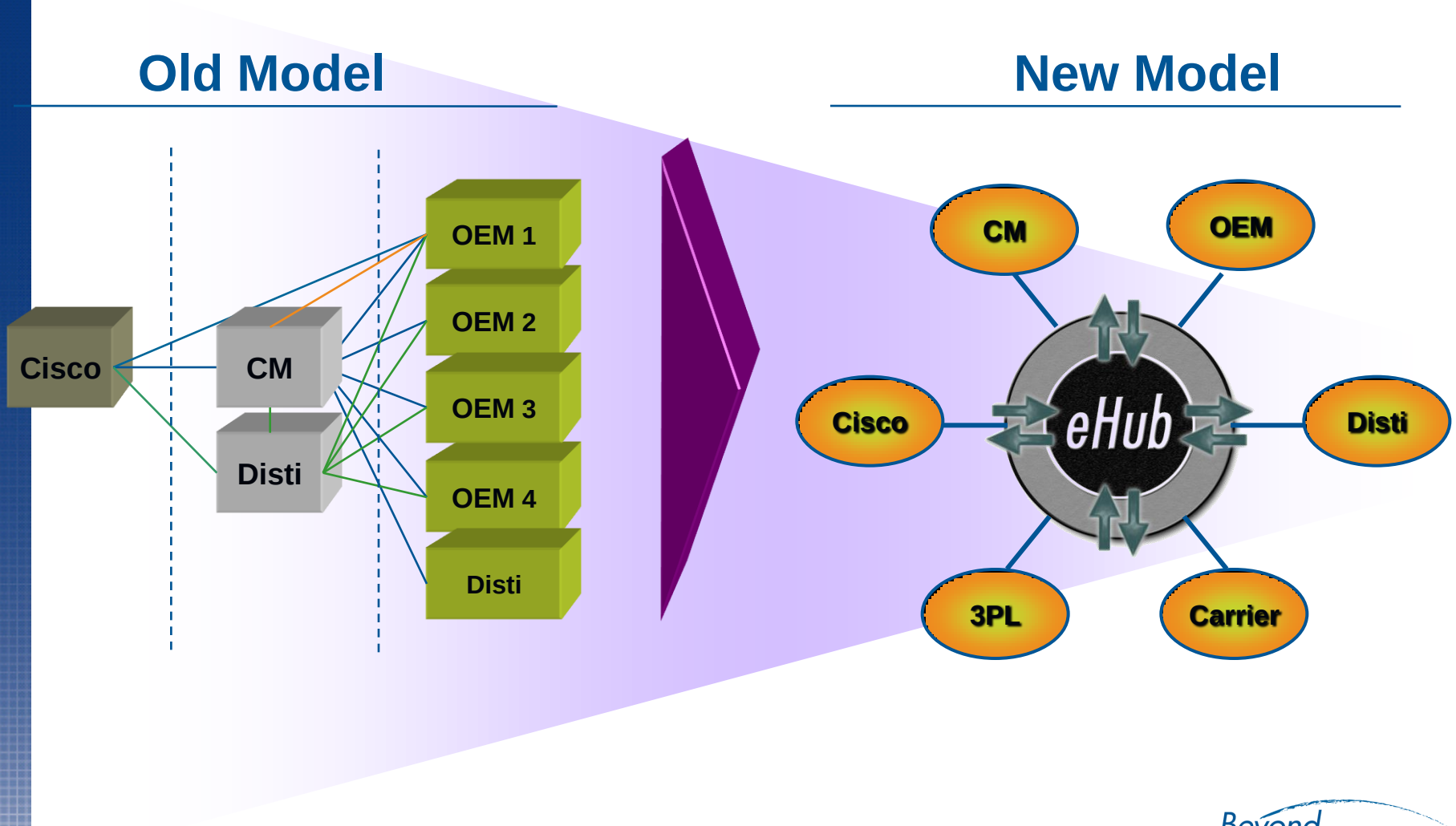
A business process that spans multiple partners performing multiple process steps and acting through multiple touch points to provide multiple products and services.

- Activities, data and processes are spread across:
  - Multiple enterprises
  - Multiple channels
  - Multiple steps in the customer process
  - Multiple business units/products

Example: Taking Supply Chains beyond the 4 Walls of the Enterprise

- **Level 1: Enterprise/Efficiency**
  - Focus on *cost reduction*. Focus on process automation, elimination of rogue purchasing, spend centralization and supplier rationalization.
- **Level 2: Extended Enterprise/Effectiveness**
  - Focus shifts to *agility*. Move towards extended enterprise synchronization. Include suppliers and channel partners in end-to-end automation of the supply chain.
- **Level 3: Network/Competitive Advantage**
  - Focus shifts to *collaborative planning, design and execution*. Move towards creation of competitive advantage through network optimization.

Example of Level 2: Cisco moves from Point-to-Point to "Hub and Spoke"



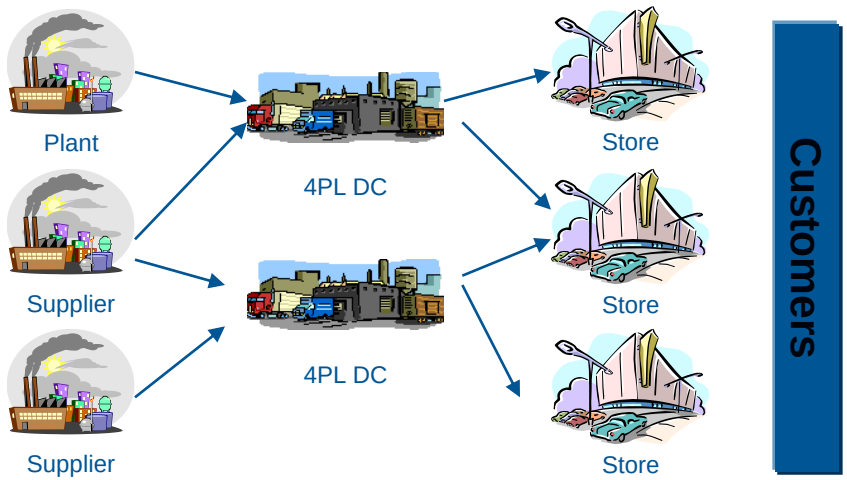
Beyond Intelligence

Level 3: 4PL/Home Improvement Retailer Network Optimization

Objective

Optimize logistics network by jointly designing retail network and logistics/distribution networks in partnership with 4PL logistics partner

Approach



Results

“Market-Opening Logistics” – Radical improvements In total network efficiency.

Beyond Intelligence

Agenda

The Collaboration Imperative

Towards the Collaborative Enterprise

Collaborative Business Processes

The Promise of Collaborative Analytics

Challenges in Implementing Collaborative Analytics

Making Collaborative Analytics Work

Beyond Intelligence

Collaborative Analytics

Collaborative Analytics is a process where inter-organizational teams organize, analyze and interpret federated customer and operations data to make better joint business decisions.

Key shifts

- From single firm to value network
- From single version of *your* truth to single version of *the total truth*
- From firm-level optimization to network-level optimization

Beyond Intelligence

How Collaborative Analytics Breaks Down Boundaries

- **Cross-Channel Analytics**: Online offer design by e-commerce site based on in-store purchasing behavior captured using POS data.
- **Cross- Category Analytics**: Designing the optimal payment terms for automobile financing by using data on automobile insurance and home mortgage ownership from P&C insurance company and mortgage company
- **Cross-Process Analytics**: Configuring optimal inbound logistics based on manufacturing constraints and prioritization of customer orders

Beyond Intelligence

The Value of Collaborative Analytics

- **Network-level optimization** of assets, responsibilities, activities, offers and campaigns will always yield better results than firm-level optimization (e.g., demand generation campaign and supplier/logistics coordination)
- **Single-source data** end-to-end allows for more powerful analytics models
- **An end-to-end view** of customer activities leads to better coordination of call-to-actions and less missed hand-offs among partners (e.g., online leads to in-store call to action)

Beyond Intelligence

Case Study: BKK in Insurance

- **Background**
  - BKK is the Federal Association of Company Health Insurance Funds in Germany
  - Represents 188 company health insurance funds that provide national health insurance in Germany
  - Seeks optimum benefits and costs for customers in healthcare contracts
- **Challenge**
  - Complicated structure between providers and individual insurance companies made it difficult to share information
  - Fragmented view of customer, provider and treatment data
  - Need to protect privacy of individuals and competitive information of represented insurance organizations

Collaborative Analytics Solution: BKK Infonet

- BKK Infonet is a Master Data Warehouse with information from all providers – physicians, dentists, hospitals, rehabilitation facilities and nursing care
- Stores data from 2 billion claims annually received from 400 source systems
- Contains detailed competitor data about users and providers across all BKK insurance companies with customer identification masked

Beyond Intelligence

Collaborative Analytics Capabilities

- **Cost structure analysis** for remedies and aids
  - Identify which treatments are performed most often by customers, regions and providers to support negotiations with providers
- **Disease management** and integrated care programs
  - Identify development pharmaceutical products that may help patients in their disease management programs
  - Support regional analysis to find contracting parties for integrated care programs
- **Case management**
  - Help customers choose best hospital or provider
  - Help insurance companies in supporting requests to switch providers when specialized treatment is needed

Business Outcomes

- **Growth**: BKK companies attracted 5 million new customers
- **Cost Avoidance**: BKK companies represent nearly 20% of the insured persons in statutory healthcare, but only 17.2% of costs
- **Formulary Compliance**: Ability to identify doctors who are approaching quarterly limits for pharmaceutical products and suggest cheaper drug options
- **Audits**: Better audits by comparing data on invoices to benefits provided to correct inaccuracies early

Agenda

The Collaboration Imperative

Towards the Collaborative Enterprise

Collaborative Business Processes

The Promise of Collaborative Analytics

Challenges in Implementing Collaborative Analytics

Making Collaborative Analytics Work

Beyond Intelligence

Challenges in collaborative analytics: Strategy and Regulation Issues

- **Redundant competencies**: Partners may have similar and overlapping competencies, so there can be ambiguity about who is responsible for what.
- **Privacy Constraints**: In the eyes of the law, customers own their personal data, so data are essentially bound to the company that collects it. This makes it difficult for network partners to exchange customer data.

Challenges in Collaborative Analytics: Integration Issues

- **Process and Systems integration**: Customer-oriented process activities are distributed across different enterprises, and these processes have to be integrated among the partnering companies in the absence of a framework for inter-company systems integration.
- **Customer Data Integration**: Customer information has to be gathered and consolidated from various sources – the information may be incompatible, incomplete, and inconsistent.

Agenda

The Collaboration Imperative

Towards the Collaborative Enterprise

Collaborative Business Processes

The Promise of Collaborative Analytics

Challenges in Implementing Collaborative Analytics

Making Collaborative Analytics Work

Beyond Intelligence

5 Steps to Making Collaborative Analytics Work

1. Agree on Goals and Value Proposition
2. Design Collaborative Processes
3. Define Roles and Responsibilities
4. Integrate Systems, Processes and Data
5. Pilot, Learn and Adapt

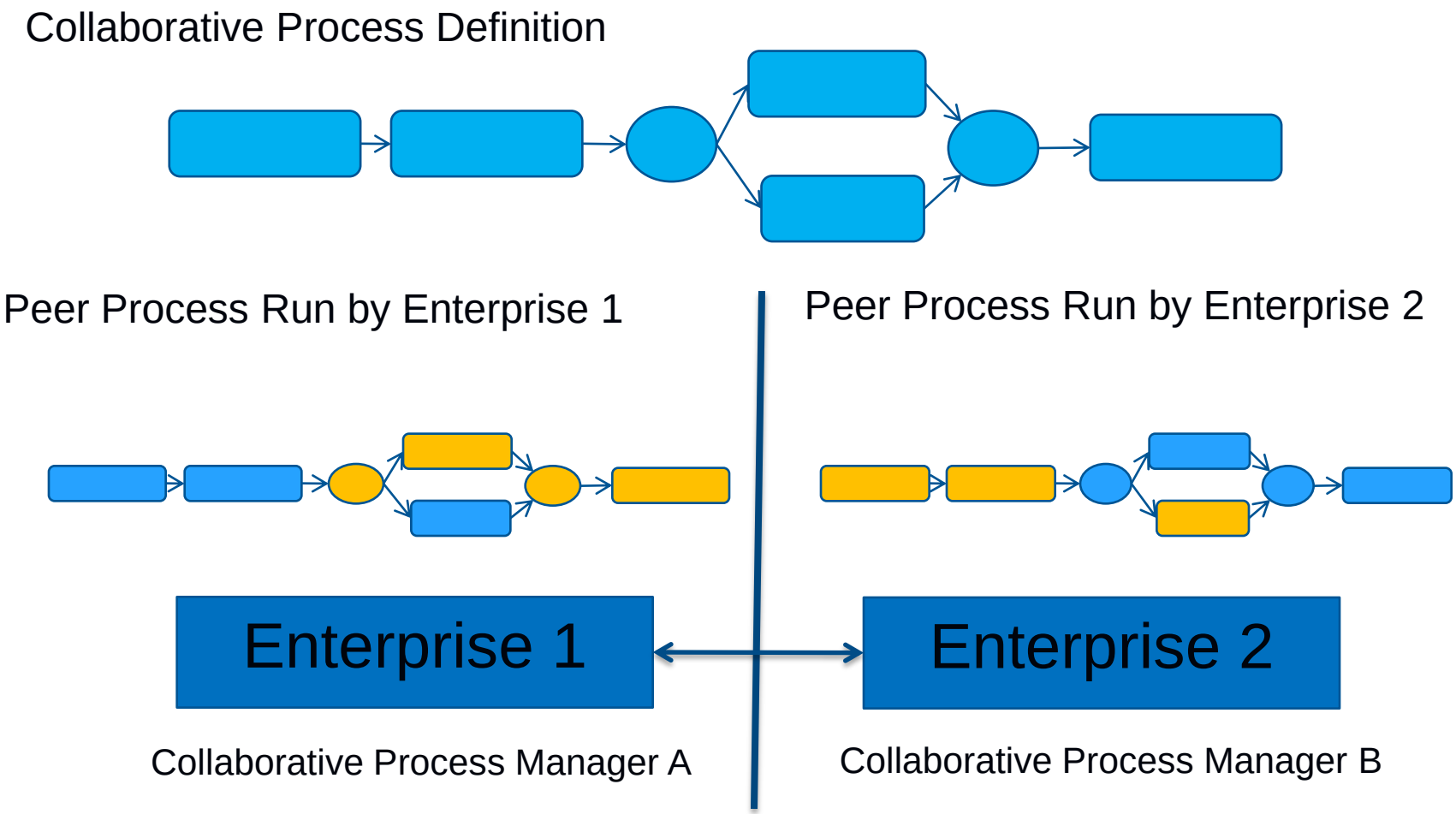
Beyond Intelligence

Step 1: Defining Goals and the Value Proposition for Analytics

- Define the *joint* business problem to be solved
  - E.g. – "Reduce total cost of managing diseases for employees"
- Identify limitations of the "current state" of analytics
  - E.g., "High cost of acute care could be reduced with earlier intervention and better preventive care"
- Define the value proposition for *all* partners involved
  - E.g. "Employers lower cost of care, employees have better quality of life, providers use acute care facilities more cost-effectively"
- Define the strategic goals of collaborative analytics
  - E.g., "Analyze multi-year comprehensive medical records and treatments for patients to improve the cost-effectiveness of disease management strategies"

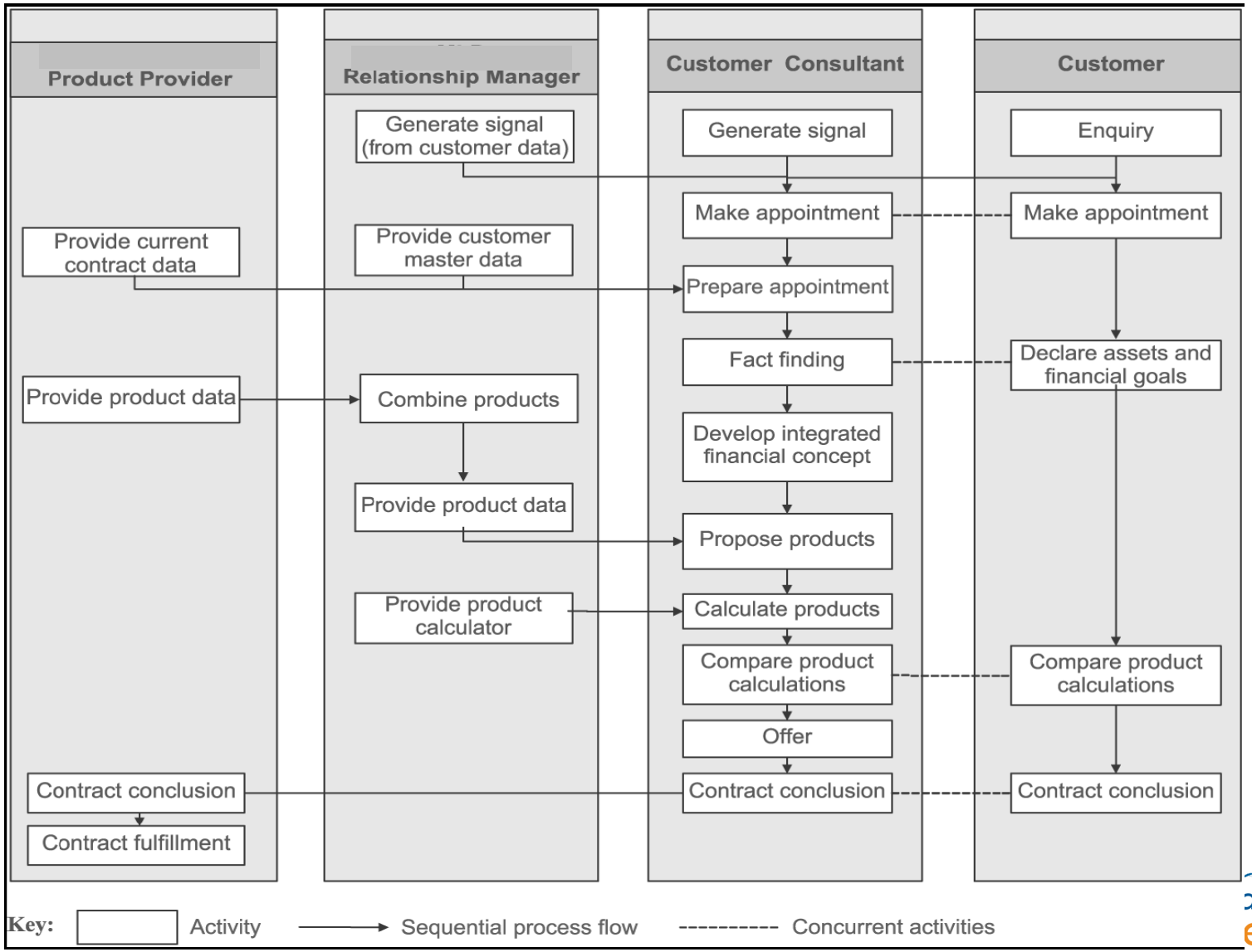
Beyond Intelligence

Step 2: Designing Collaborative Business Processes



Beyond Intelligence

Step 3: Defining Roles and Responsibilities for Network Partners



Step 4: Integrate Data, Processes and Systems

- Deal with Data Privacy
  - Get customer consent in general terms and conditions.
  - Use anonymous data transfer from data owner to partners to build collaborative analytics models
- Integrate Customer Data
  - Create joint data model for customer-related data
  - Design a virtual “Network Data Warehouse”
  - Create unique customer ID or a matching algorithm for data consolidation
- Integrate Processes and Systems
  - Reduce manual tasks, format conversions, and shorten processing times.
  - Data integration, functional integration and presentation integration

Beyond Intelligence

Step 5: Experiment, Learn and Adapt

- Maximize the amount of learning that you get for the least amount of money – “the LOI”
- Create a discipline around
  - Experiment
  - Assess
  - Adapt
  - REPEAT
- Remember the mantra
  - Think BIG
  - Start SMALL
  - Scale FAST

Key Ideas

- The Collaborative Enterprise
- Five Key Shifts in the Enterprise Mindset
- Collaborative Business Processes
- Collaborative Analytics as Network Optimization
- Challenges in Implementing Collaborative Analytics
- 5 Steps to Collaborative Analytics Success:
  - Goals and Value Proposition Definition
  - Collaborative Process Design
  - Roles and Responsibilities Allocation
  - Integration
  - Learning and Scaling

Beyond Intelligence

Thank you!
Questions?

Beyond Intelligence