Value Chain Dynamics Toolkit

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Value Chain Dynamics Working Group
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Agenda

- Objectives
- Approach
- Anatomy of a tool
- The basic idea
- General guidelines
- The toolkit
- User Guide

Objectives

- Enable sponsors to take VCDWG learnings back to their organizations
- Provide a structure for systematic analysis of communications innovation
- Provide tools to generate “outcomes” in several stages
  - Learning
  - Cataloging
  - Mapping
  - Predicting
  - Positioning
- Sponsors can focus on any one tool, or aspect of a tool
- Today’s goal – preview the toolkit, test some tools, get your feedback

Approach

- Base tools on the core-edge methodology
- Initially low tech – manual, paper-based
- Develop generic & specialized worksheets
- Organize tools into stages
- Add new tools throughout research program
- Exercises are more “art” than “science” – *facilitation is key!*

Anatomy of a tool

Purpose

- What is the expected outcome/results of the tool – insights and/or output (e.g., a diagram, a list, etc.)

Background

- Explain the rationale/theory behind the tool
- Some tools will require deeper learning tools provided in the LEARN section

Process

- Outline of the steps

Guidelines

- Additional information regarding steps where necessary

The basic idea

1. Choose a type of service for analysis

2. Break it down to component parts

- Individual services & functional elements

3. How are the parts organized?

- Who provides what parts?
- How does each part work? How do the different parts work together?
- Where are key customer relationships? Where is value being captured? By whom? By what means?
- What's the market share of the different business models?

4. How & why is this changing over time?

- Triggers and dynamics

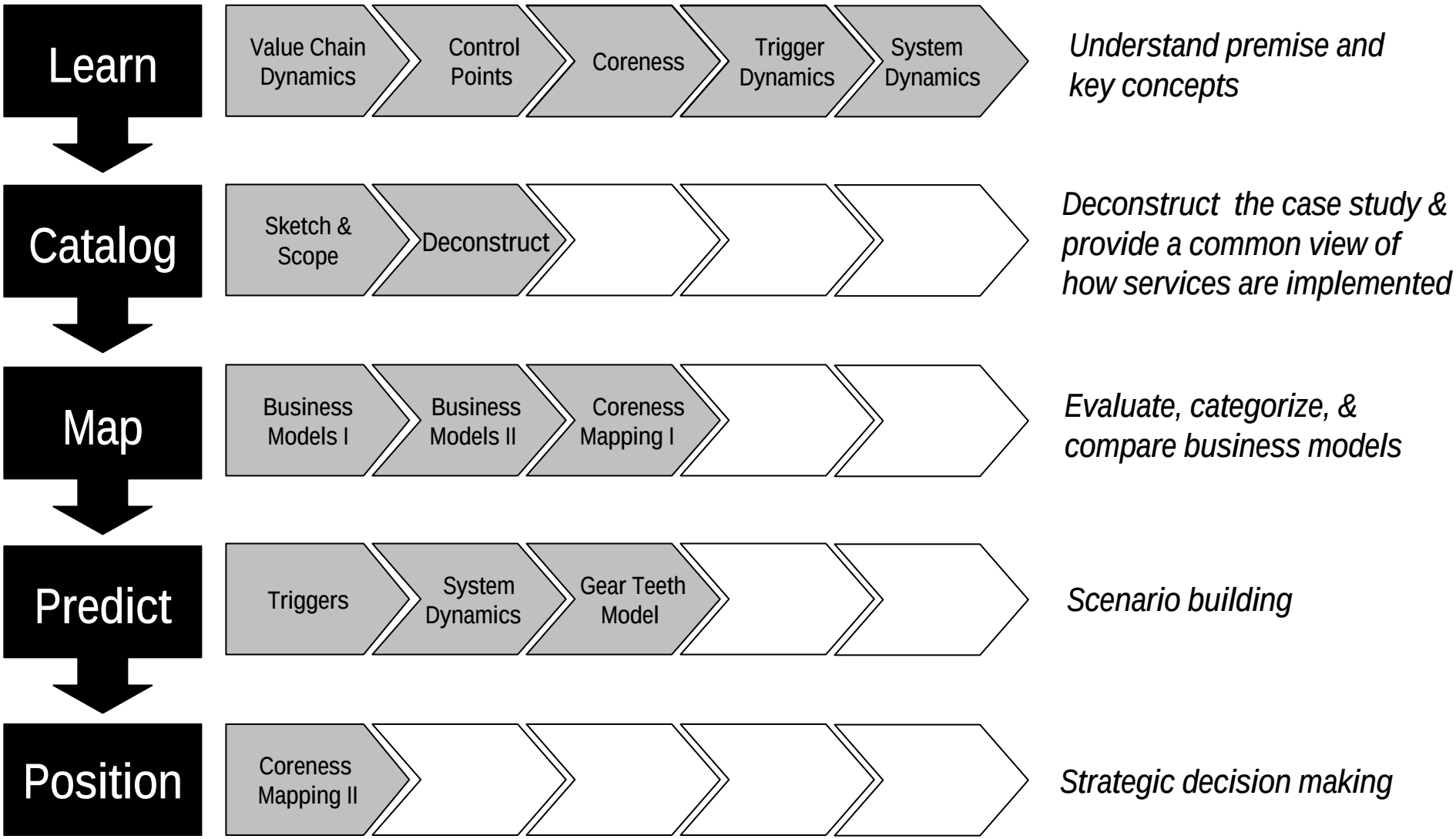
General guidelines

- Remember this is art not science
  - The tools provide a common framework
  - They provoke discussion and generate insights

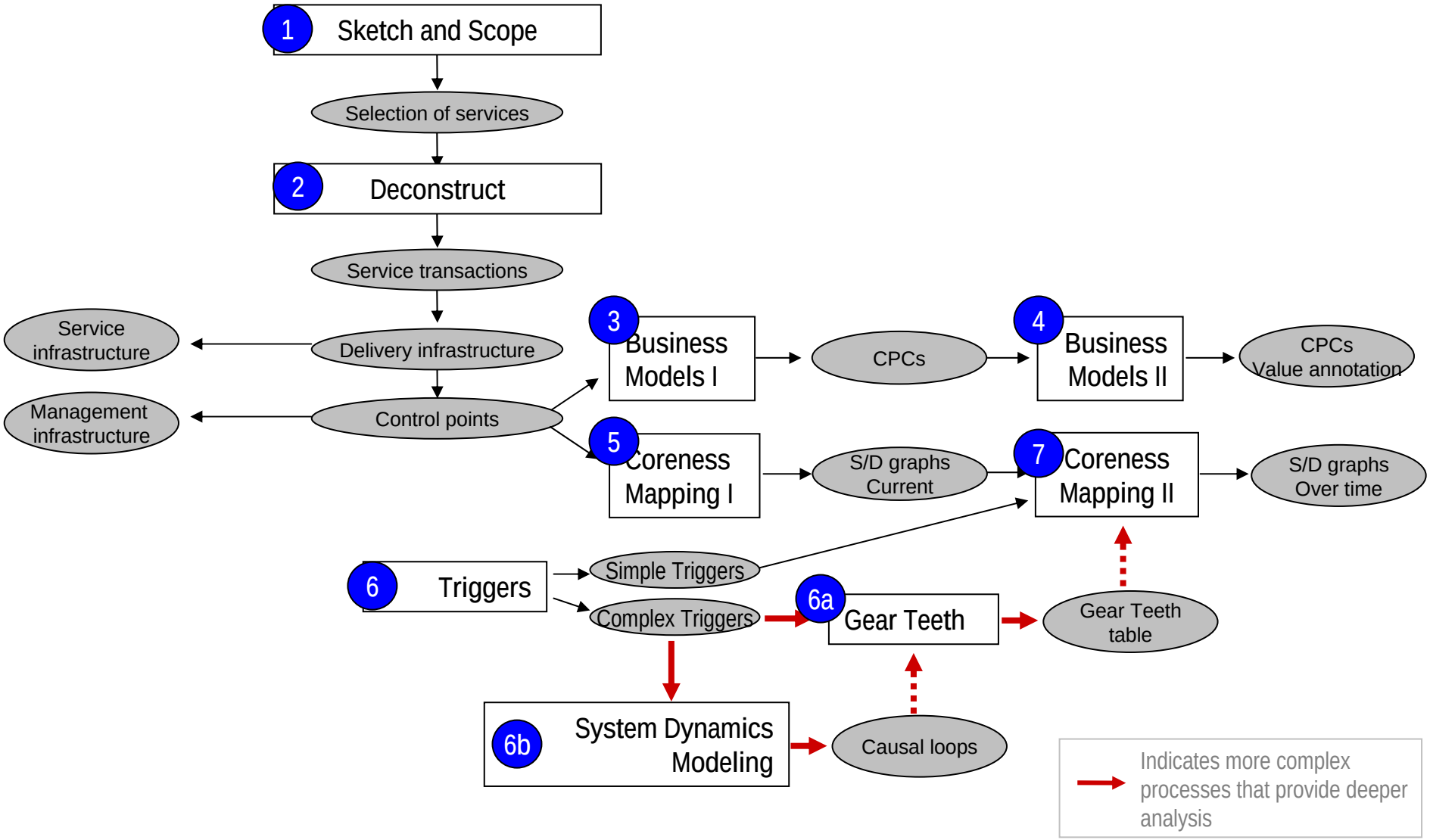
- Don’t get hung up on the steps
  - The tools are iterative
  - They can be done in any order
  - Skip steps if you want

Value Chain Dynamics Toolkit

Contents of toolkit



Value Chain Dynamics Toolkit



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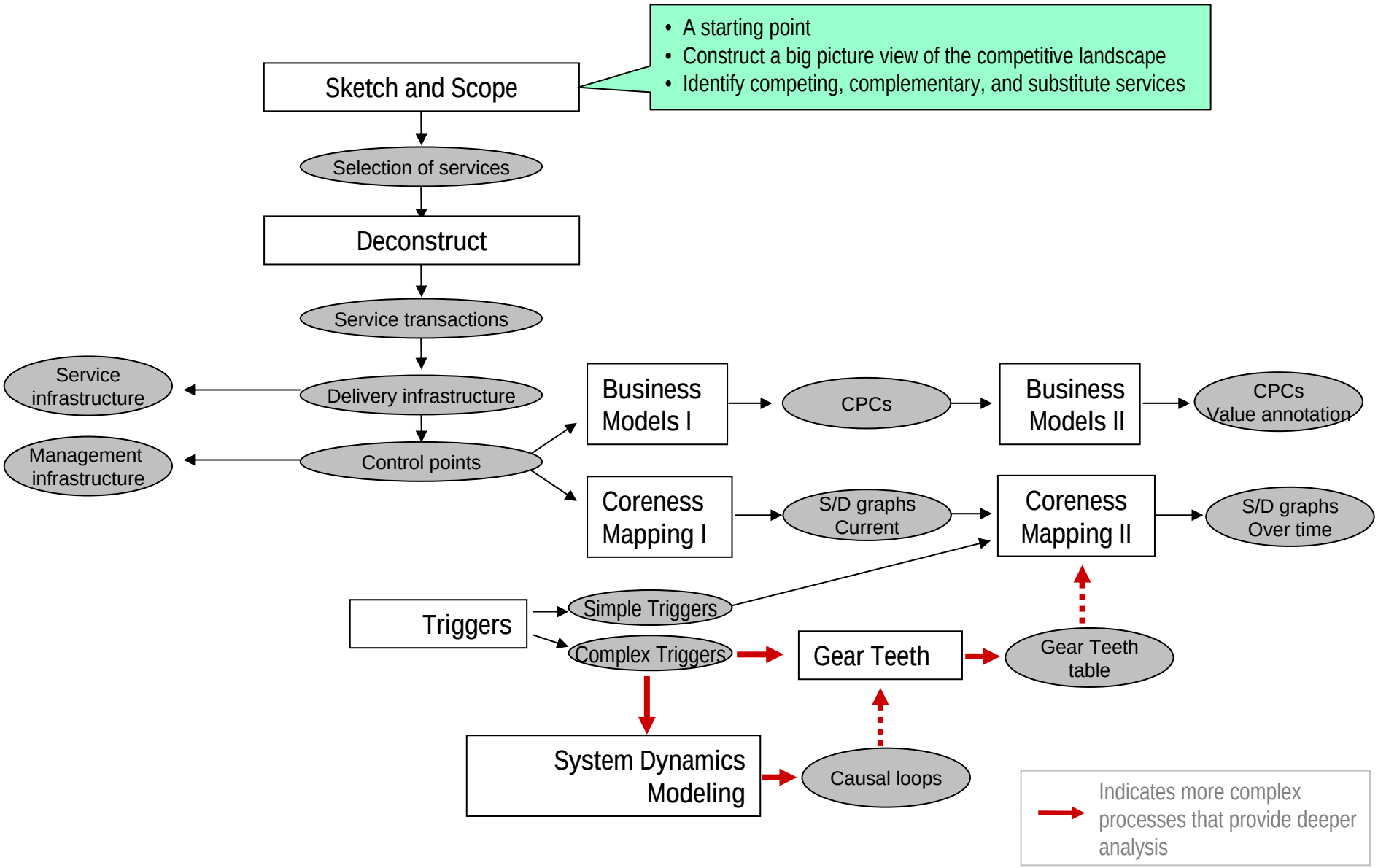


A1. Sketch & Scope – IP Video Example

List all types of IP Video services (#46)

- Broadcast TV
- Cable TV
- Satellite TV
- Verizon
- ATT SureWest
- SaskTel
- MaLigne TV
- FastWeb
- PCCW
- Celfun
- iTunes videos
- Vcast
- Satellite phone
- DVB-H
- BitTorrent
- P2P Networks
- Google
- In2TV
- MTV
- ABC
- Joe Cartoon
- Homestar Runner
- Veoh
- Wkolphin
- MovieLink
- CinemaNow
- Akimbo
- ITVN
- Dave TV
- TiVo
- Brightcove
- YouTube
- iFilm
- BlipTV
- Personal web sites
- Podcasts

Categorize according to key types of value chains (#47)

Traditional video
- Broadcast networks
- Cable networks

Telco offerings
- Verizon
- ATT SureWest
- SaskTel
- MaLigne TV
- FastWeb
- PCCW
- Celfun

Mobile Video
- iPod & PDAs
- Cell phone
- Satellite phone
- DVB-H
- BlipTV

Video via Internet
- Google
- iTunes
- In2TV

Video via Internet (con't)
- ABC
- MTV
- Joe Cartoon
- BitTorrent
- P2P Networks
- Homestar Runner
- Veoh
- Wholphin
- Movielink
- CinemaNow
- Akimbo
- ITVN
- Dave TV
- TiVo
- Brightcove
- YouTube
- iFilm
- BlipTV
- Personal web sites
- Podcasts

Identify secondary dimensions that differentiate service models (#48)

Delivery network
- Traditional Cable
- Satellite
- Private Internet
- Public Internet
- Cellular networks

Access device
- TV (via STB)
- PC
- Cell phone
- Portable player

Creation models
- Produced by TV or movie studio
- User-created ("home videos")

Publishing models
- Top-down publishing
- Bottom-up (user-uploaded content)

Aggregation models
- Aggregated by an intermediary
- Consumer direct channels

User ownership models
- Streaming
- Download to own, download to rent
- Subscription vs pay per show

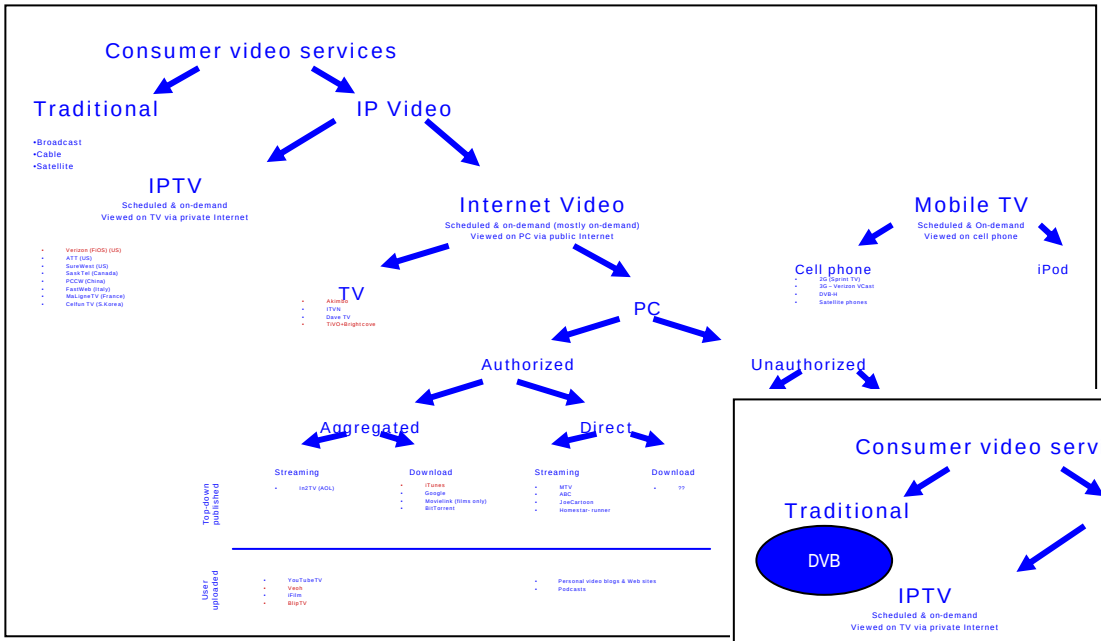
Temporal models
- Scheduled
- On-demand
- Time-shifted (recorded)

Spatial models
- Fixed
- Mobile

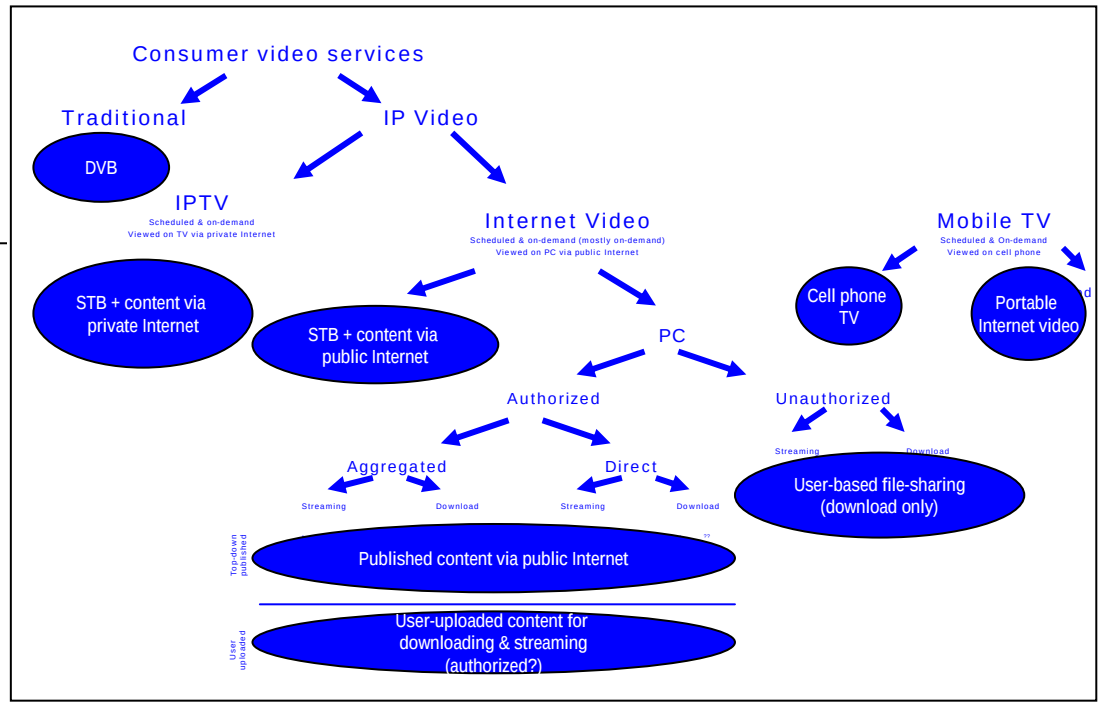
Legal models
- Authorized
- Unauthorized

Others?

A1. Sketch & Scope – IP Video Example



Show service types based on different dimensions in a graphic format if useful, and populate with services (#50)



Identify high-level categories (#51)

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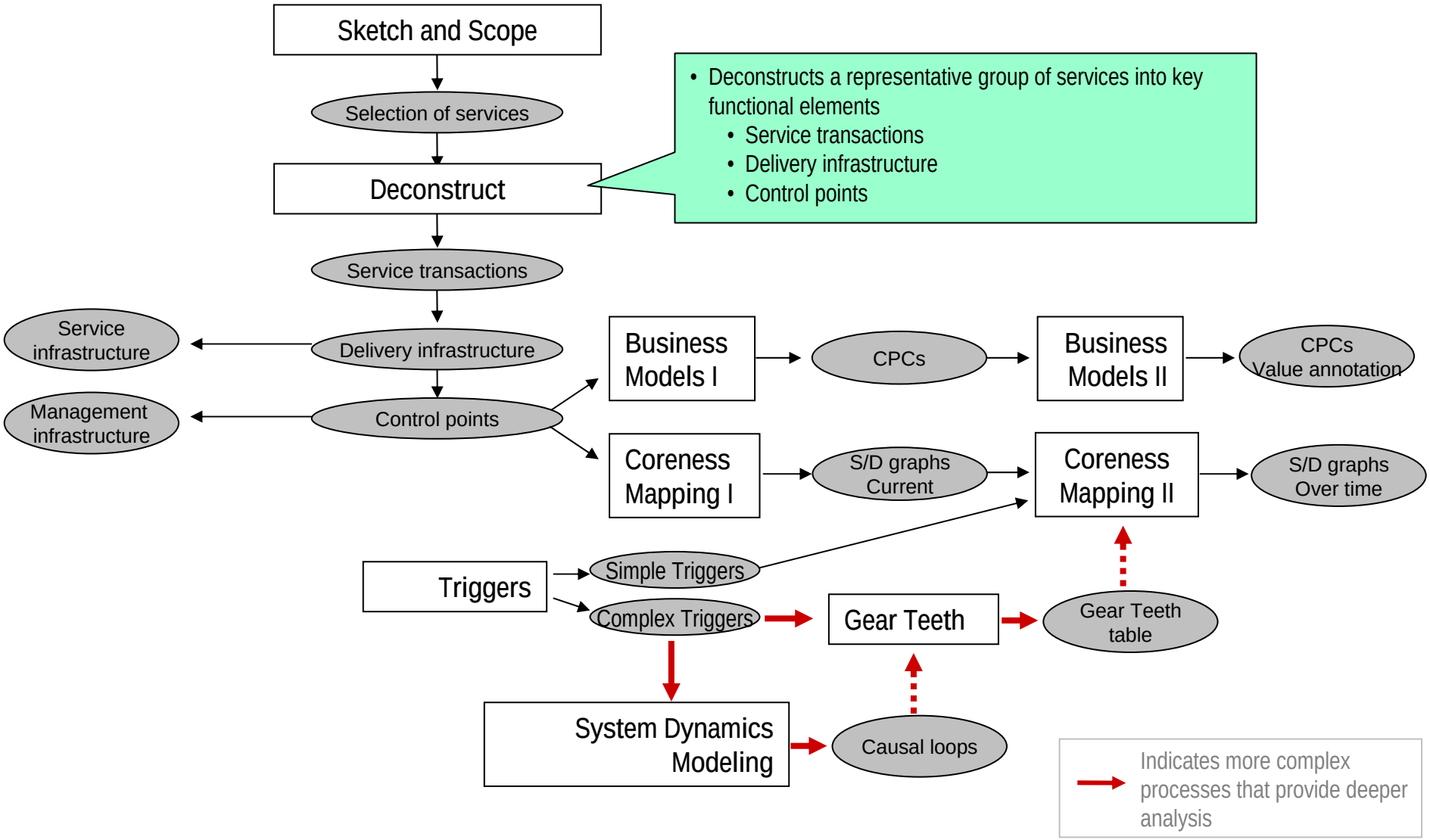

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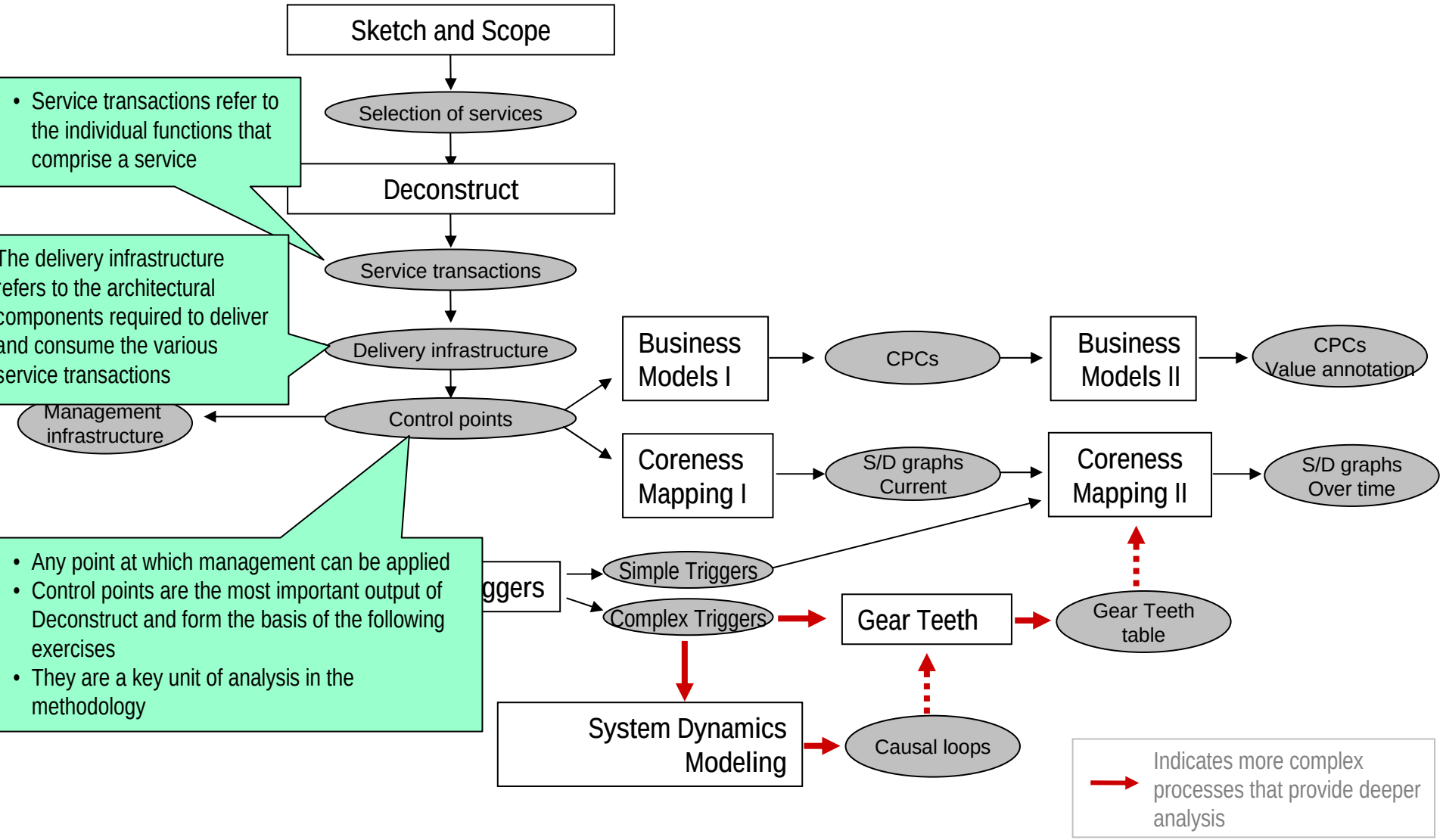


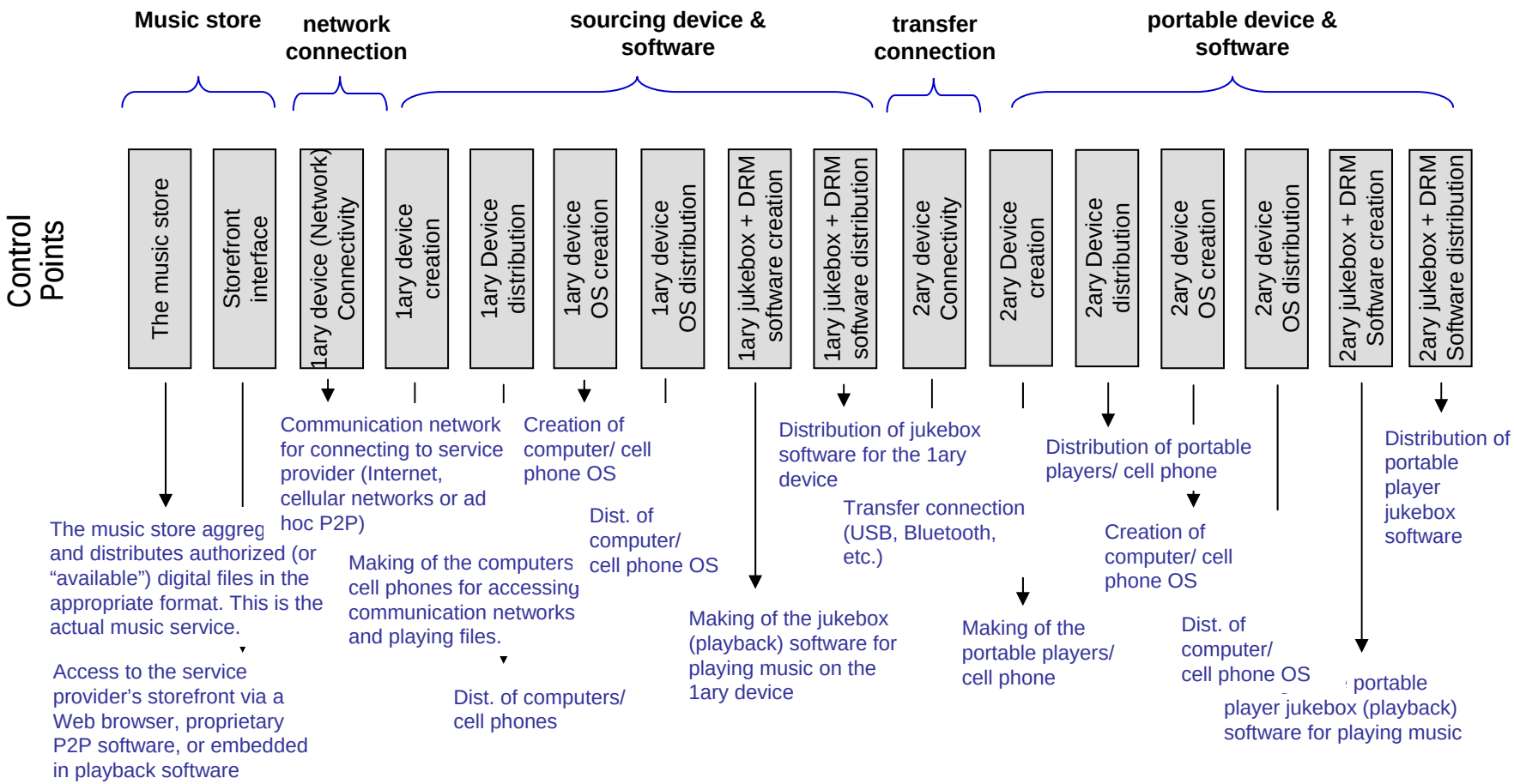
X2. Control Points

#29

- Control points are points at which management can be applied
- All functional elements have the potential to serve as a control point, but the degree and scope of control that can be leveraged from a given control point will vary
- Control points vary in their strategic value
- Control is exercised via business, regulatory, and/or technical means

X2. Control Points – Digital Music Services example

#30



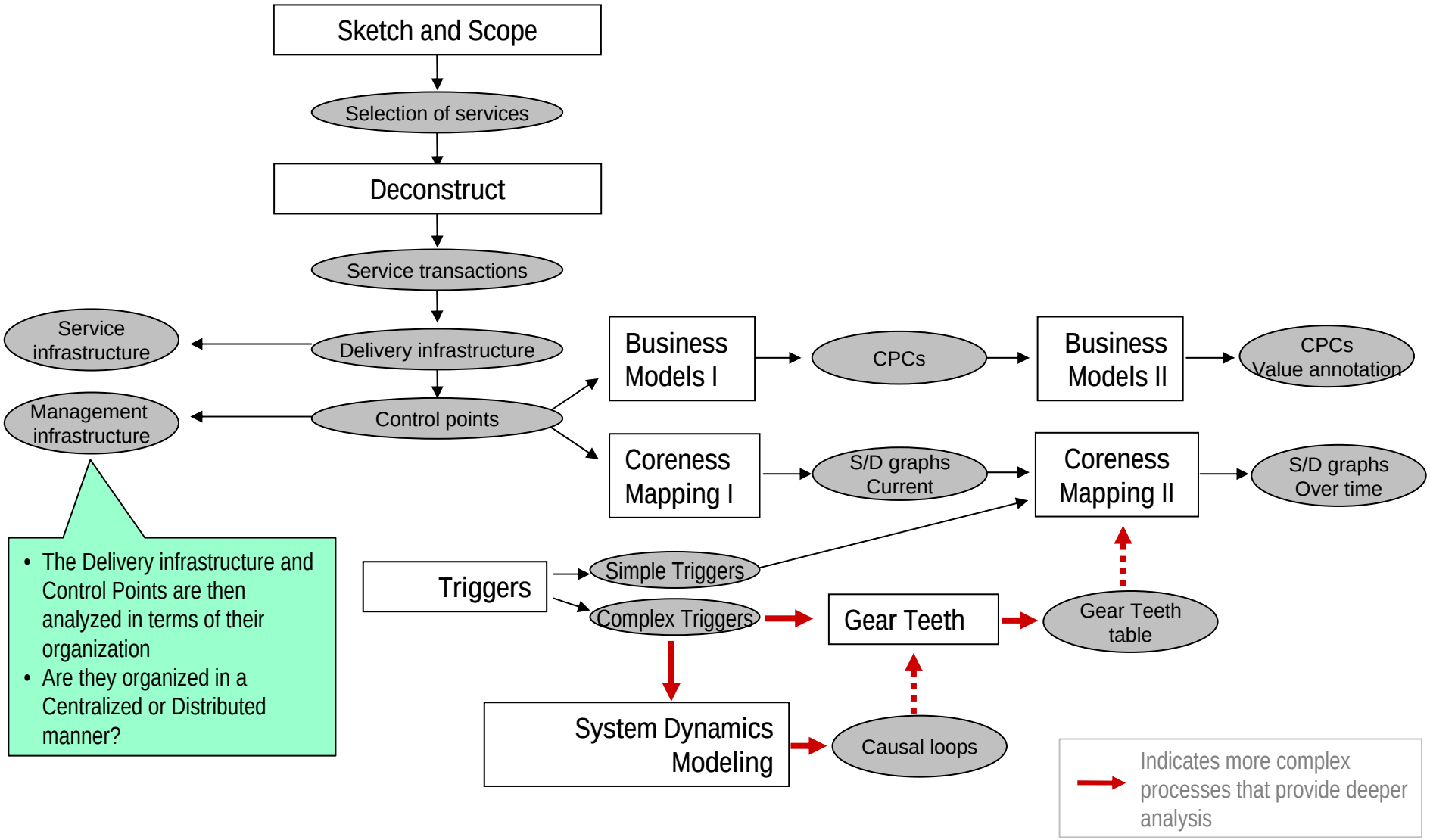
A2. Deconstruct – VoIP example

Summary of the deconstruction a representative group of services (#55)

- Service transactions
- Delivery infrastructure
- Control Points

	AT&T	Vonage	Skype
Service transactions	• Call signaling • Bit transport • Routing to PSAP • Disability Access – TTY, TRS signaling • Multiple phones – home wiring • Wiretapping – Call recording • Billing (tracking MOU)	• Call signaling • Routing to PSAP • Phone number to SIP URI mapping • Billing (flat rate, no MOU tracking)	• Call Signaling and Setup • Namespace and Presence Features • Preferential Routing for Quality
Delivery infrastructure	• local loop, national backbone, international backbone, CO, Class 5 and Class 4	• Phone Adaptor; SIP Server, SIP Gateway, [Owned by other entities - DSL Adaptor or Cable Modem, BB network,PSTN or Wireless Infrastructure]	• Application Software
Control points	• Local Loop, National Backbone • Circuit Switching – 100 years of Reliability, QoS • PSTN Features • Regulatory Compliance	• Phone Adapter, PC Application • SIP Signaling – virtual phone numbers, portability of phone service • Flat Rate Billing	• PC Application • Voice/Video/Data Convergence • Name Space

Value Chain Dynamics Toolkit



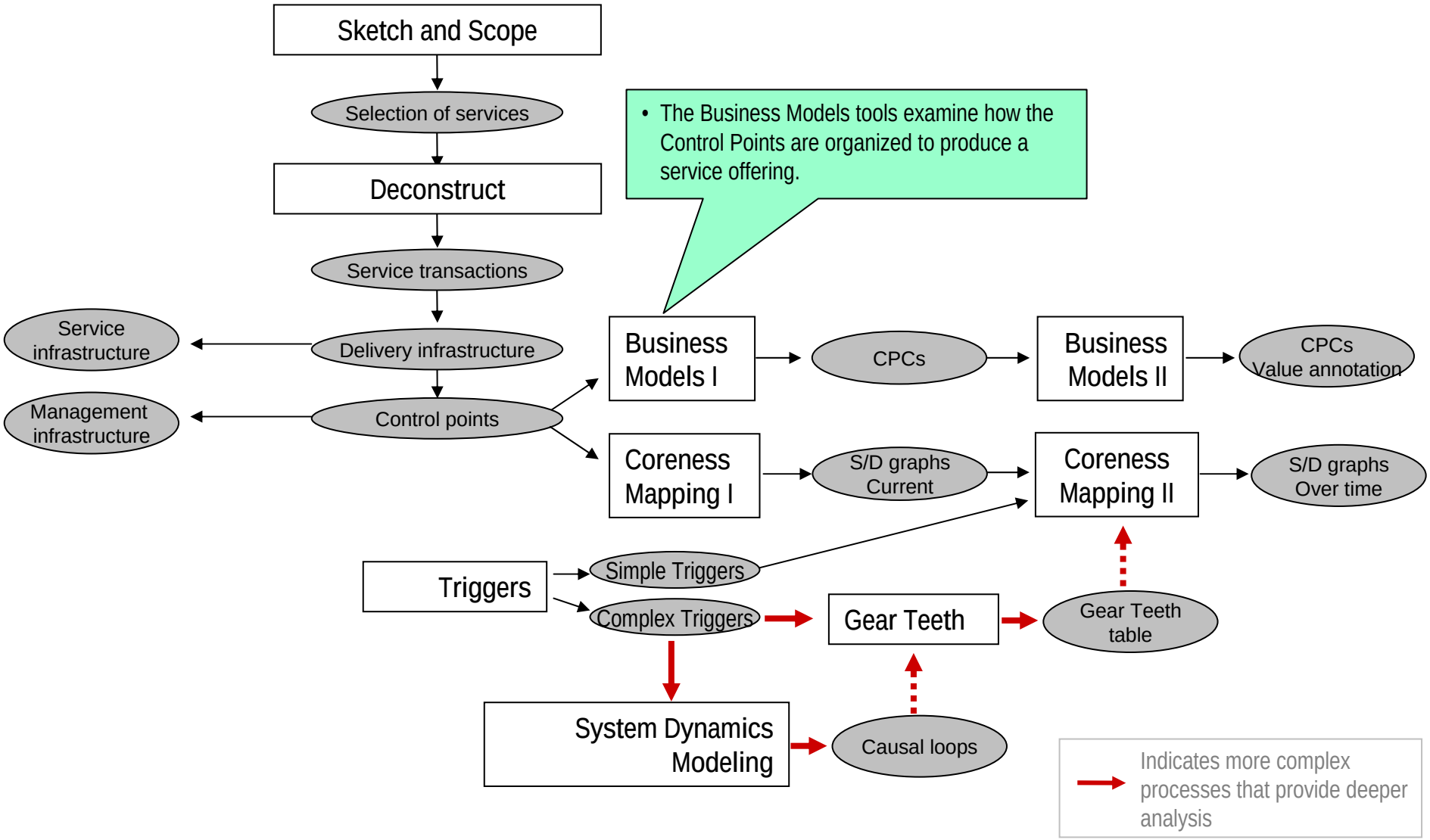
Organization – VoIP example

Understand the organization of Control Points and Delivery Infrastructure (#58)

- Centralized or Distributed?

	AT&T		Vonage		Skype	
Control Points	• Local Loop, National Backbone	Centralized	• Phone Adapter, PC Application	Distributed	• PC Application	Distributed
	• Circuit Switching – 100 years of Reliability, QoS	Centralized	• SIP Signaling – virtual phone numbers, portability of phone service	Centralized	• Voice/Video/Data Convergence	Distributed
	• PSTN Features	Centralized	• Flat Rate Billing	Centralized	• Name Space	Centralized
	• Regulatory Compliance	Centralized				
Delivery infrastructure	• Local Loop	Centralized	• Phone Adaptor	Distributed	• Application software	Centralized
	• National backbone	Centralized	• SIP Server	Centralized		
	• International backbone	Centralized	• SIP Gateway	Centralized		
	• CO Class 5 & class 4	Centralized				

Value Chain Dynamics Toolkit



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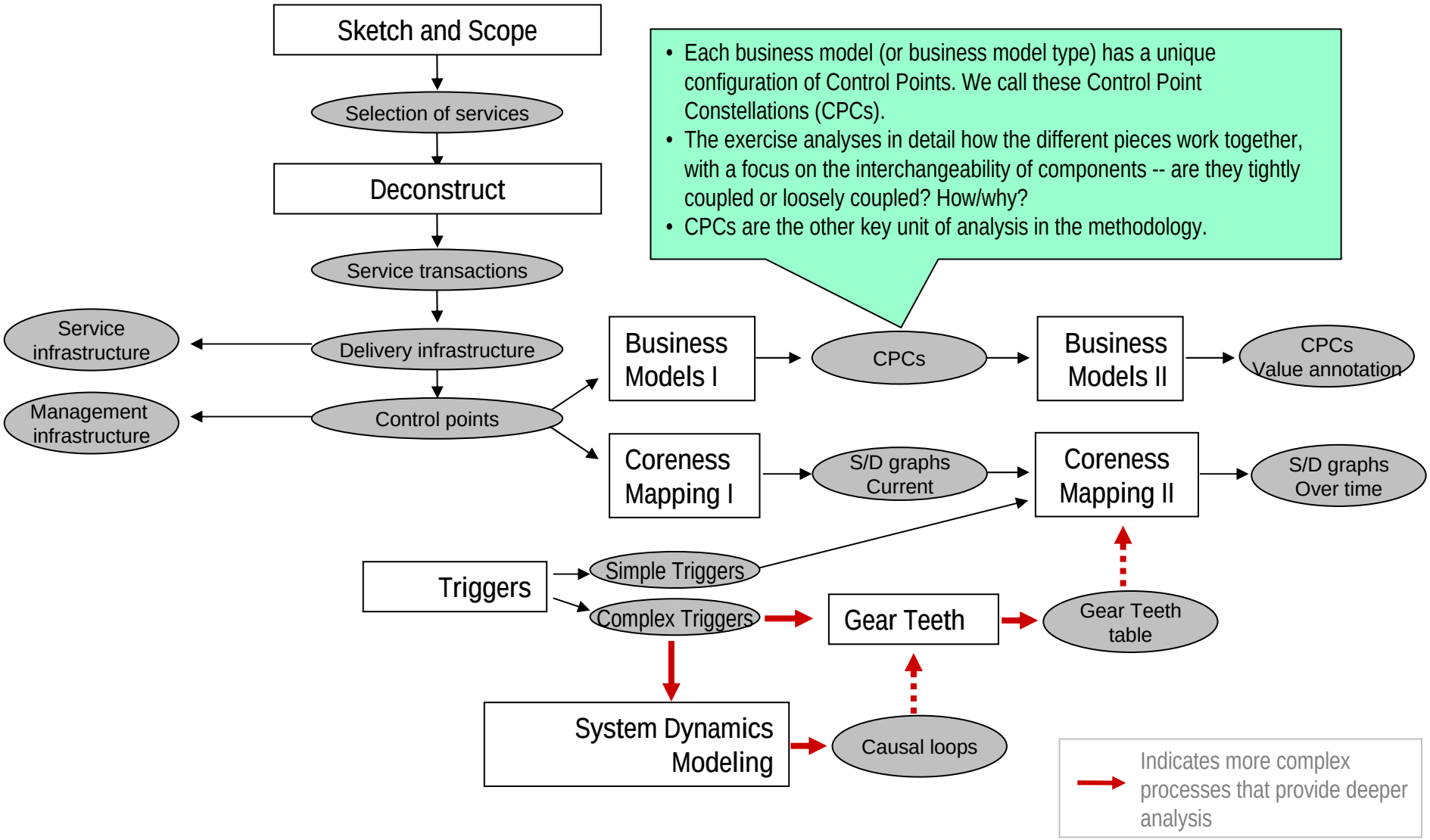
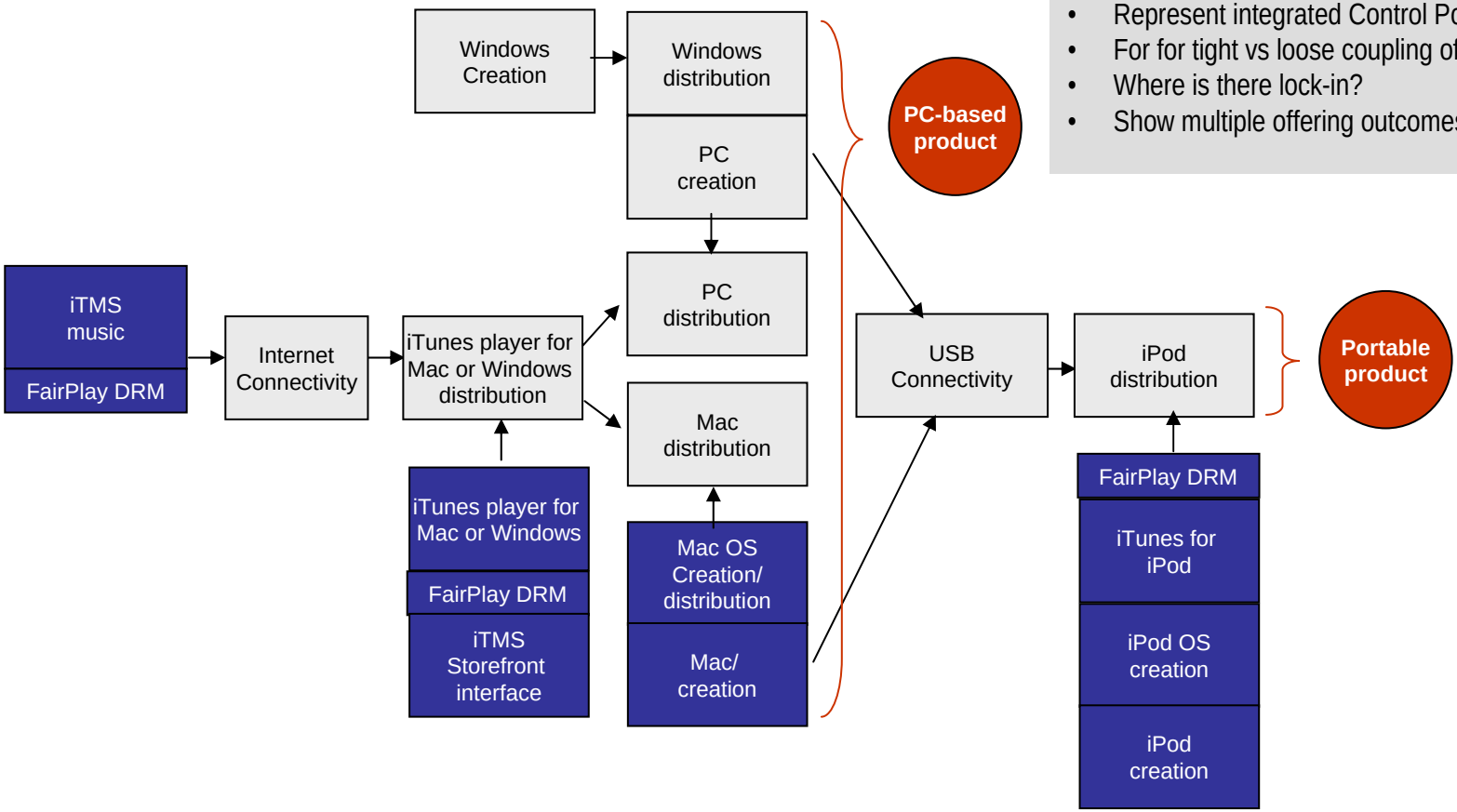


B1. Business Models I – Control Point Constellations – Digital Music e.g.

Example: Digital Music Services (#62)

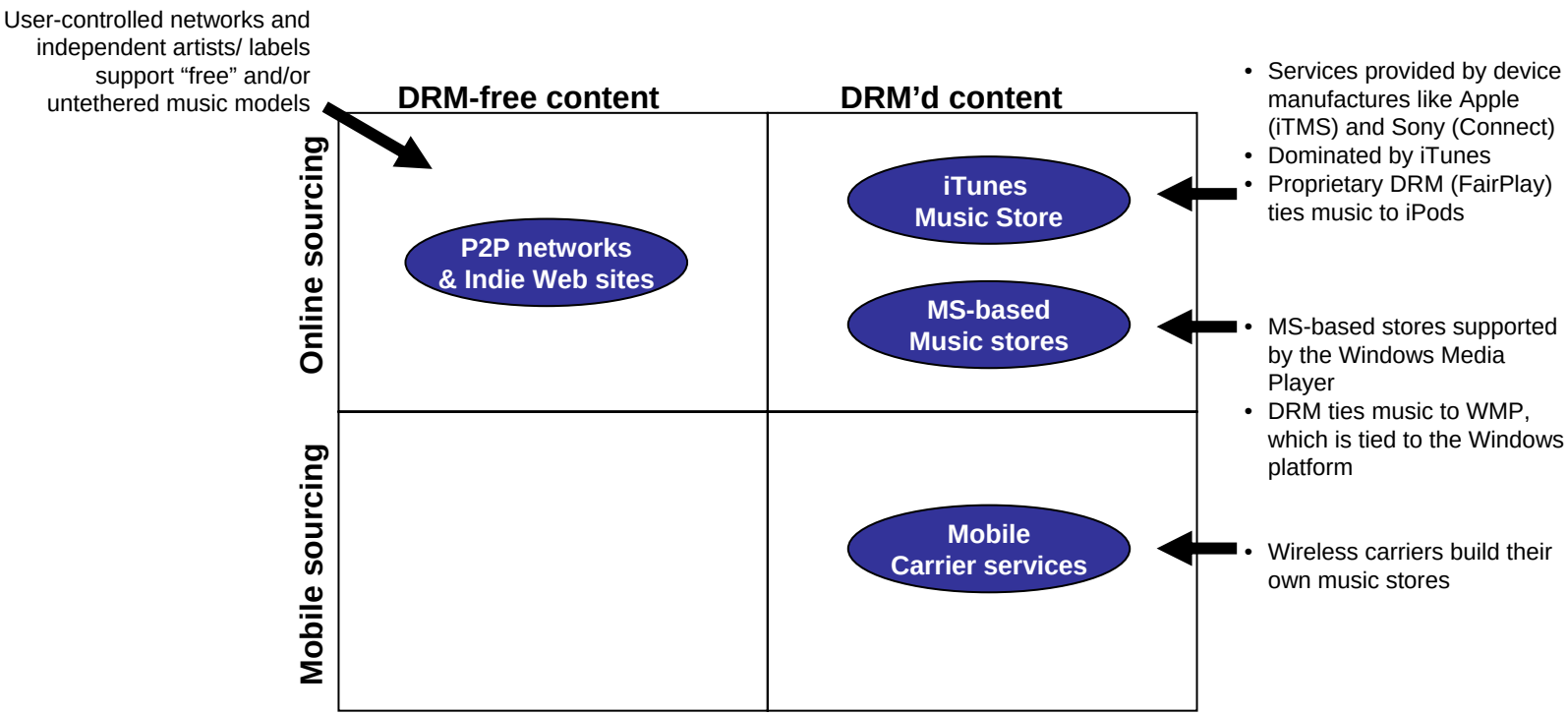


Guidelines

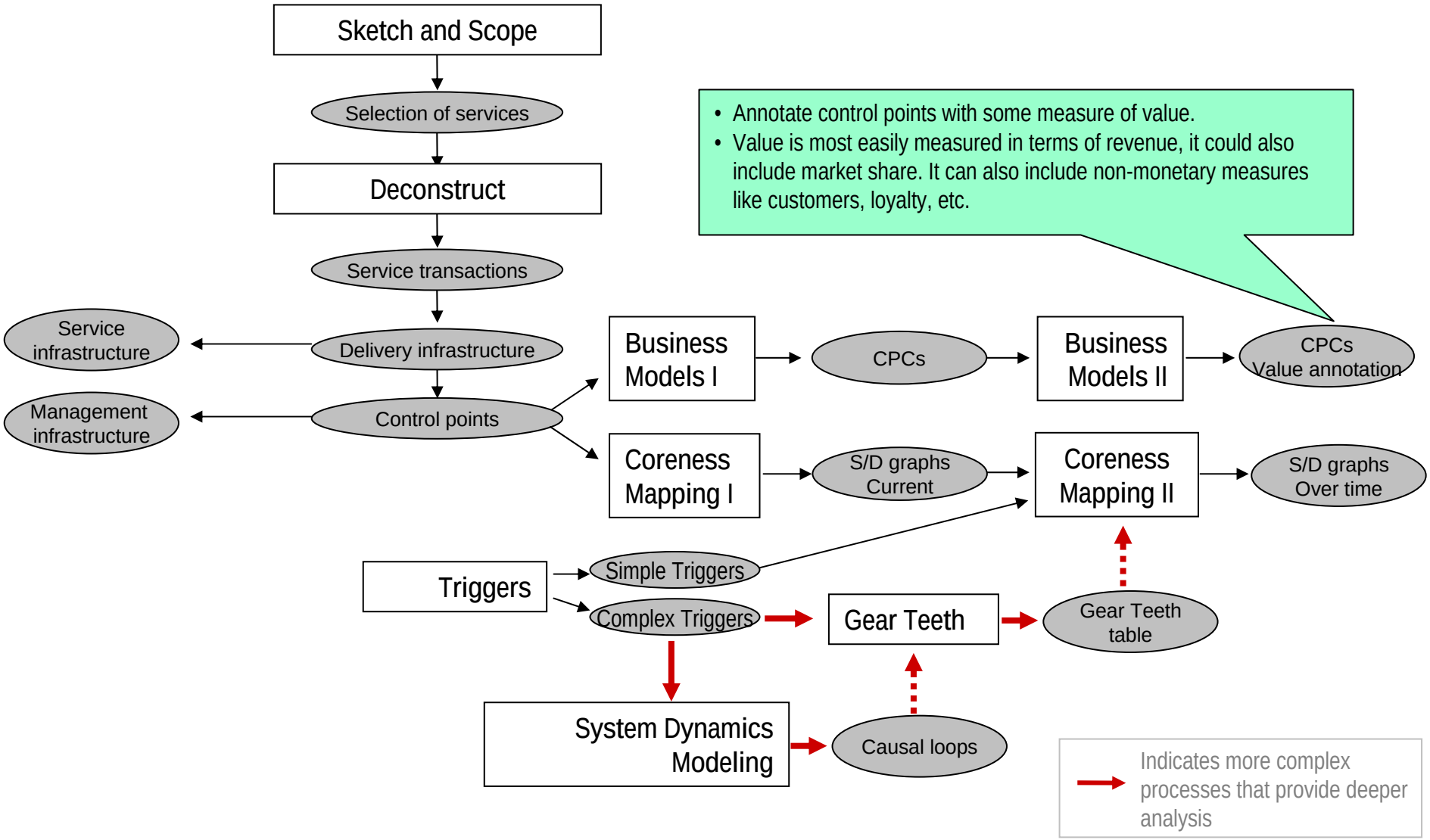
- Arrange Control Points in a logical sequence
- Indicate where components or bundles of components flow into one another
- Represent integrated Control Points as joined together
- For for tight vs loose coupling of components
- Where is there lock-in?
- Show multiple offering outcomes if applicable

B1. Business Models I – Control Point Constellations – Digital Music e.g.

For more complex service industries, look for high level categories of CPCs (#63)

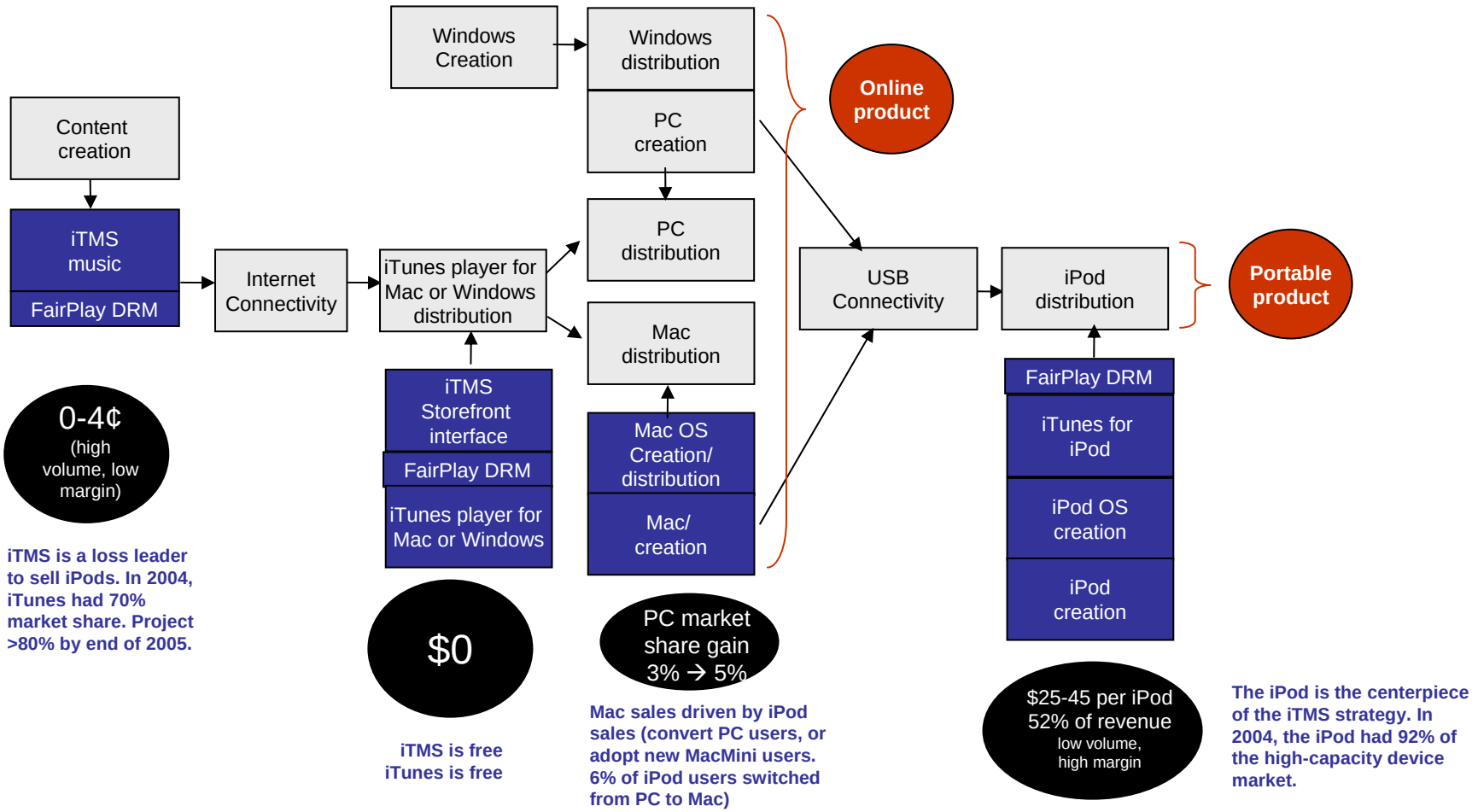


Value Chain Dynamics Toolkit



B2. Business Models II – Value Annotation – Digital Music Example

Annotate Control Points with value (#66)



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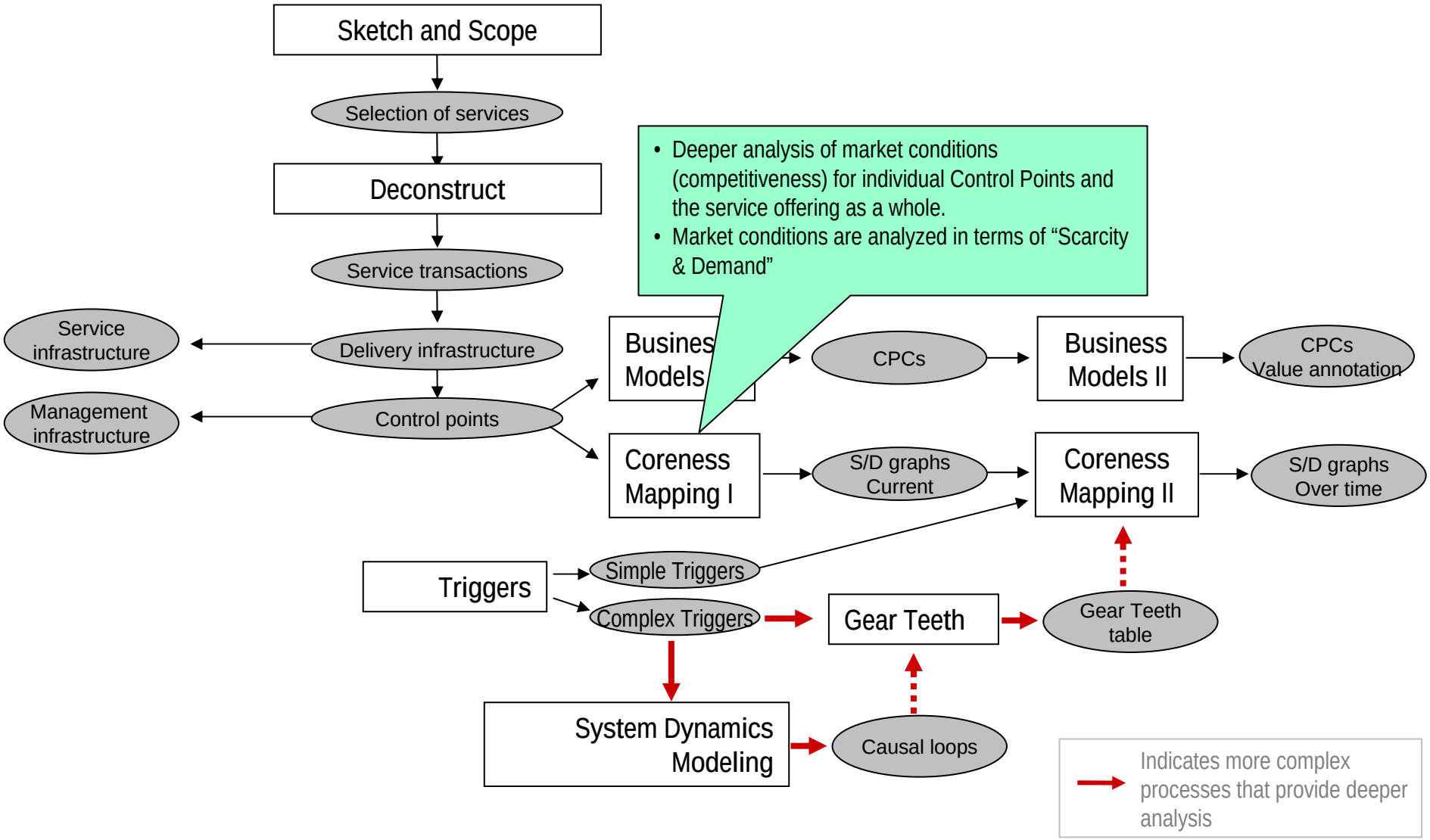


X3. Coreness

#31

- Coreness addresses market conditions for Control Points – threats & opportunities
- Control Points are described in terms of 2 key properties
- *Scarcity* & *Demand* characterized traditional core services

Scarcity

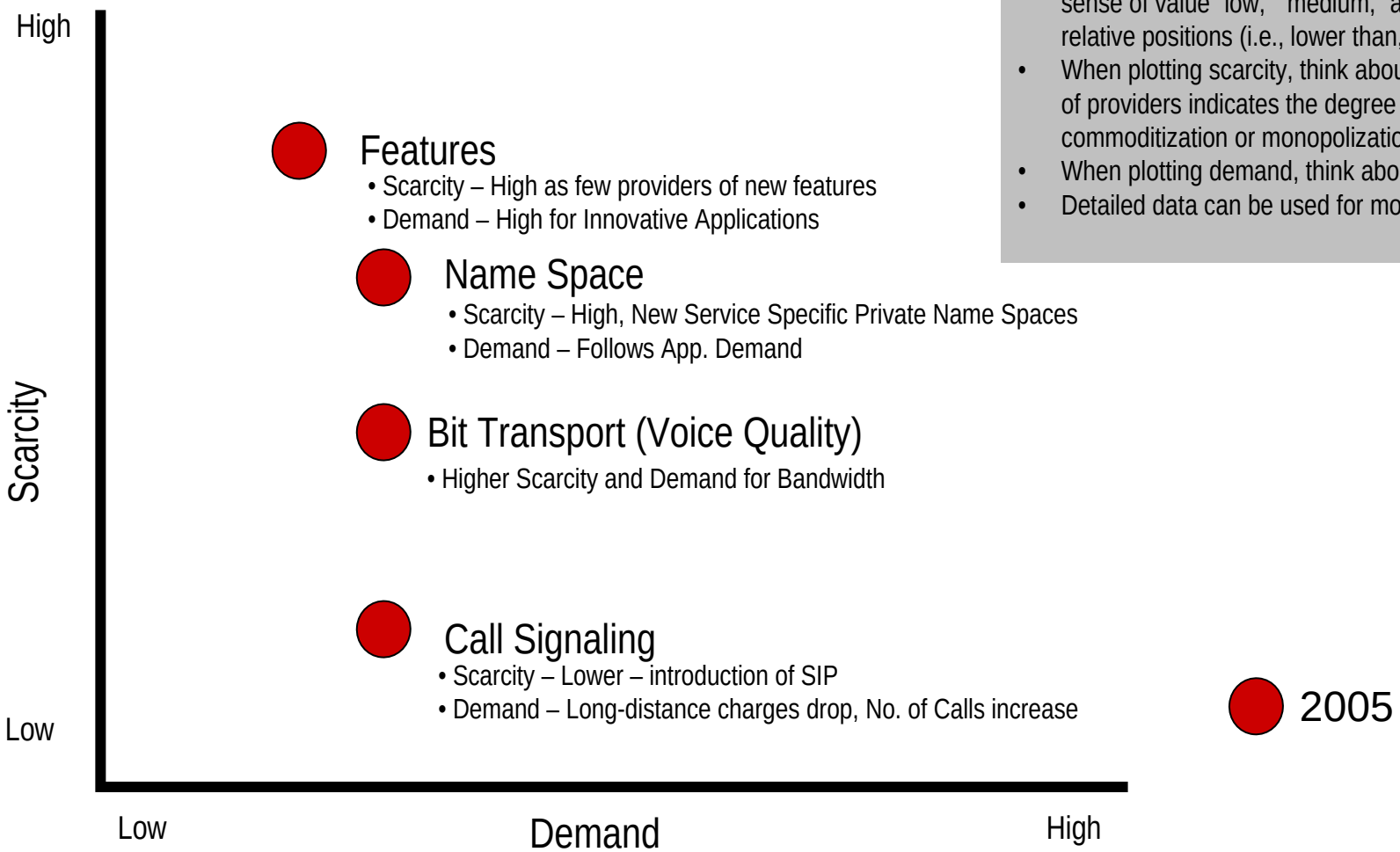
- Refers to the number of providers in the market relative to size of market
- High scarcity = monopoly conditions
- Low scarcity = commoditization
- Affected by technology, business, and/or regulation factors
- Influences how much value (revenue, customers) is captured
- But, is scarcity always a good thing?

Demand

- The potential market share that can be captured by a control point, or a service offering
- Measures include sales revenue, number of subscribers, etc.

B3. Coreness Mapping I – Control Point Level

Example VoIP (#69)

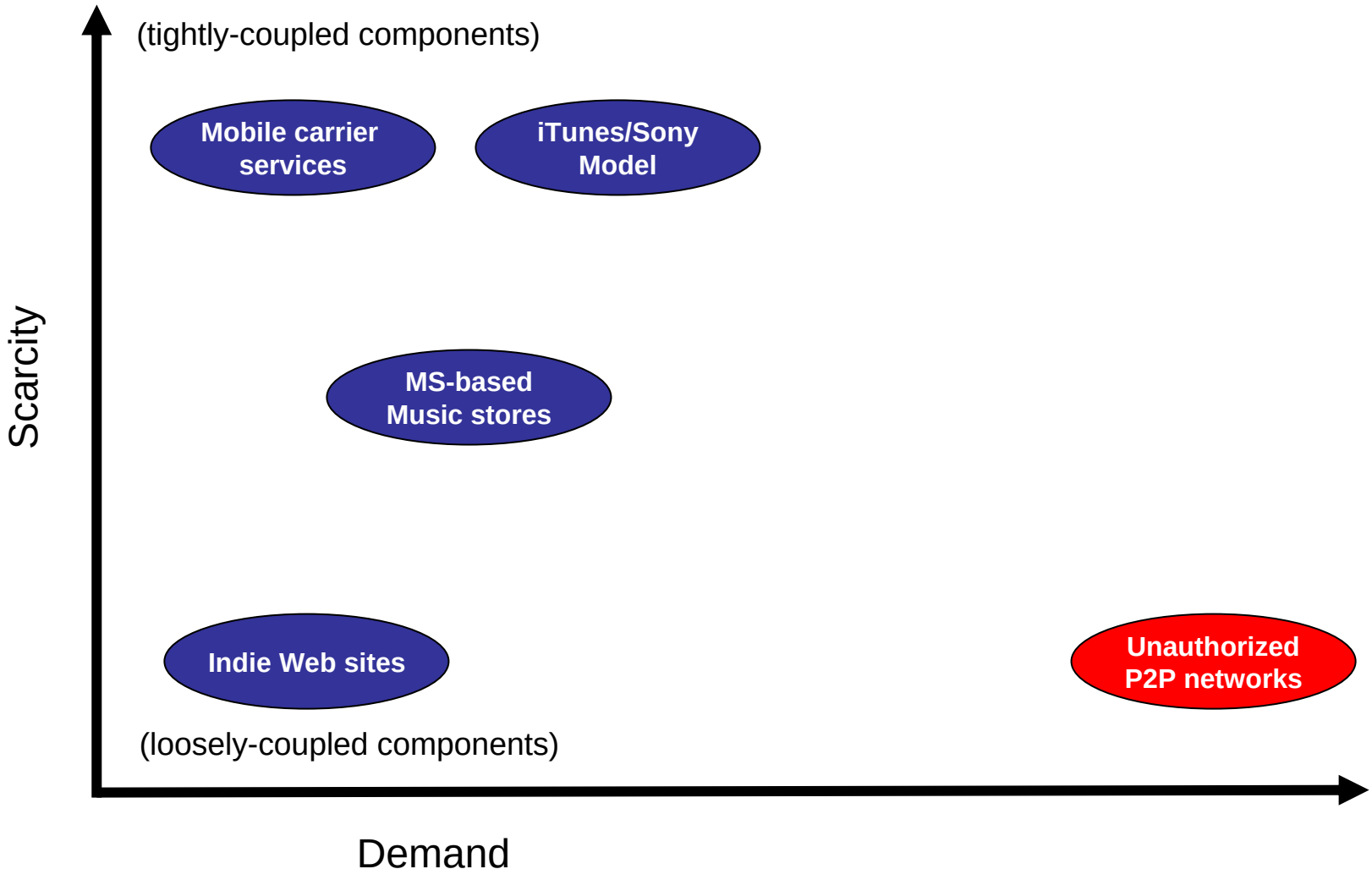


Guidelines

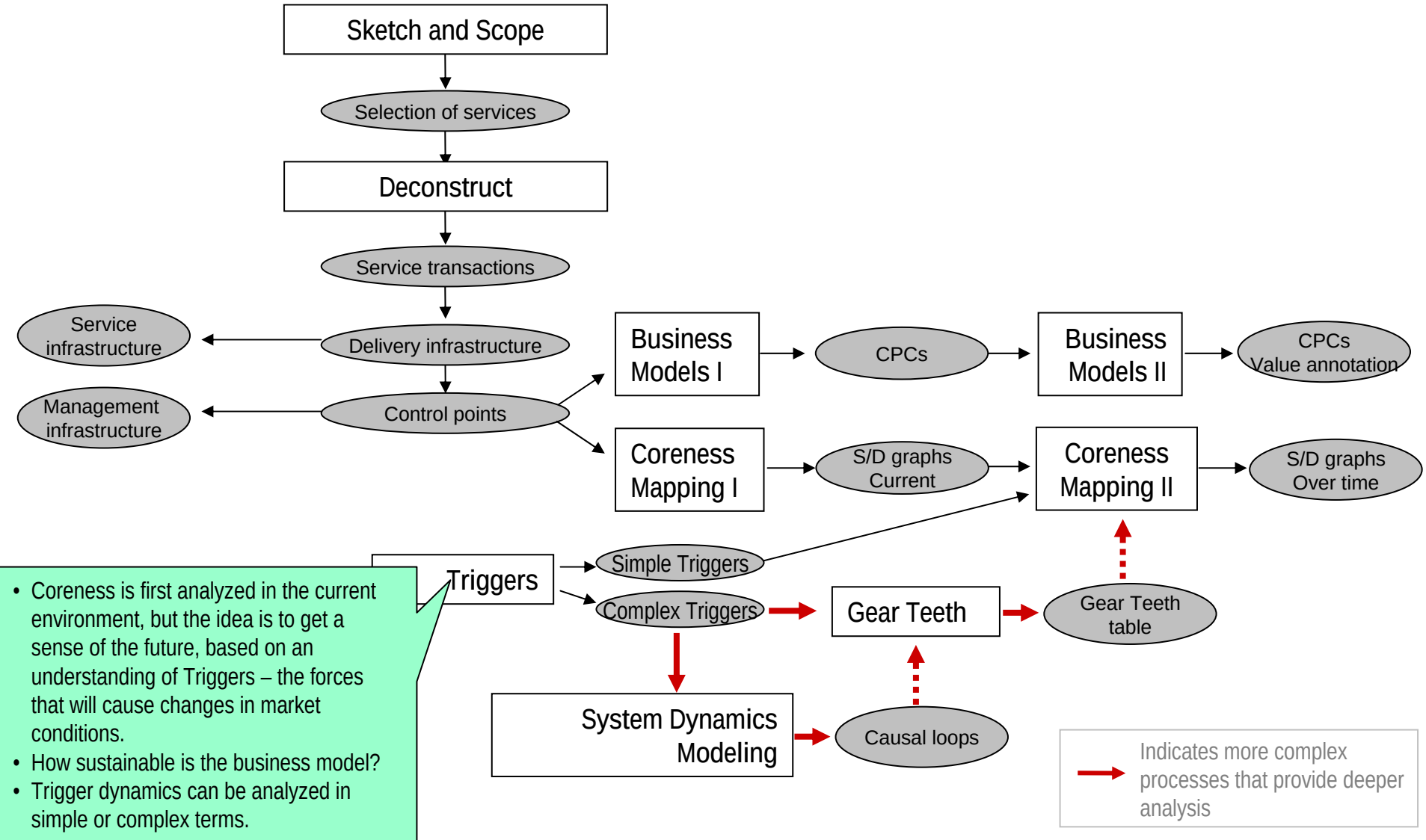
- Plot all Control Points on the same graph
- These are rough plots meant to give a general sense of value “low,” “medium,” and “high” values, relative positions (i.e., lower than, higher than)
- When plotting scarcity, think about how the number of providers indicates the degree of commoditization or monopolization of the market
- When plotting demand, think about market share
- Detailed data can be used for more precise graphs

B3. Coreness Mapping I – Service Offering Level

Digital Music Services example

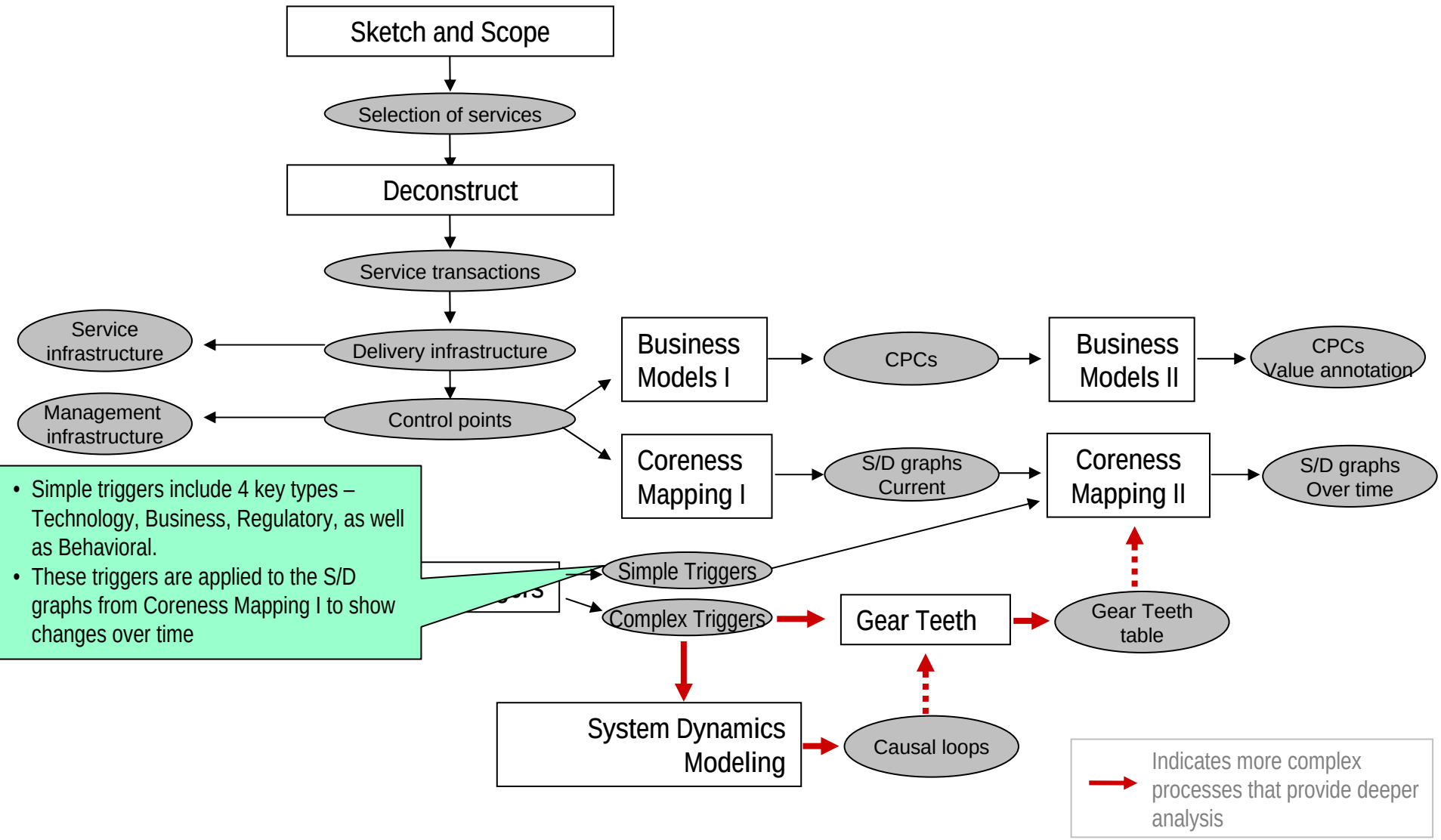


Value Chain Dynamics Toolkit



- Coreness is first analyzed in the current environment, but the idea is to get a sense of the future, based on an understanding of Triggers – the forces that will cause changes in market conditions.
- How sustainable is the business model?
- Trigger dynamics can be analyzed in simple or complex terms.

Value Chain Dynamics Toolkit

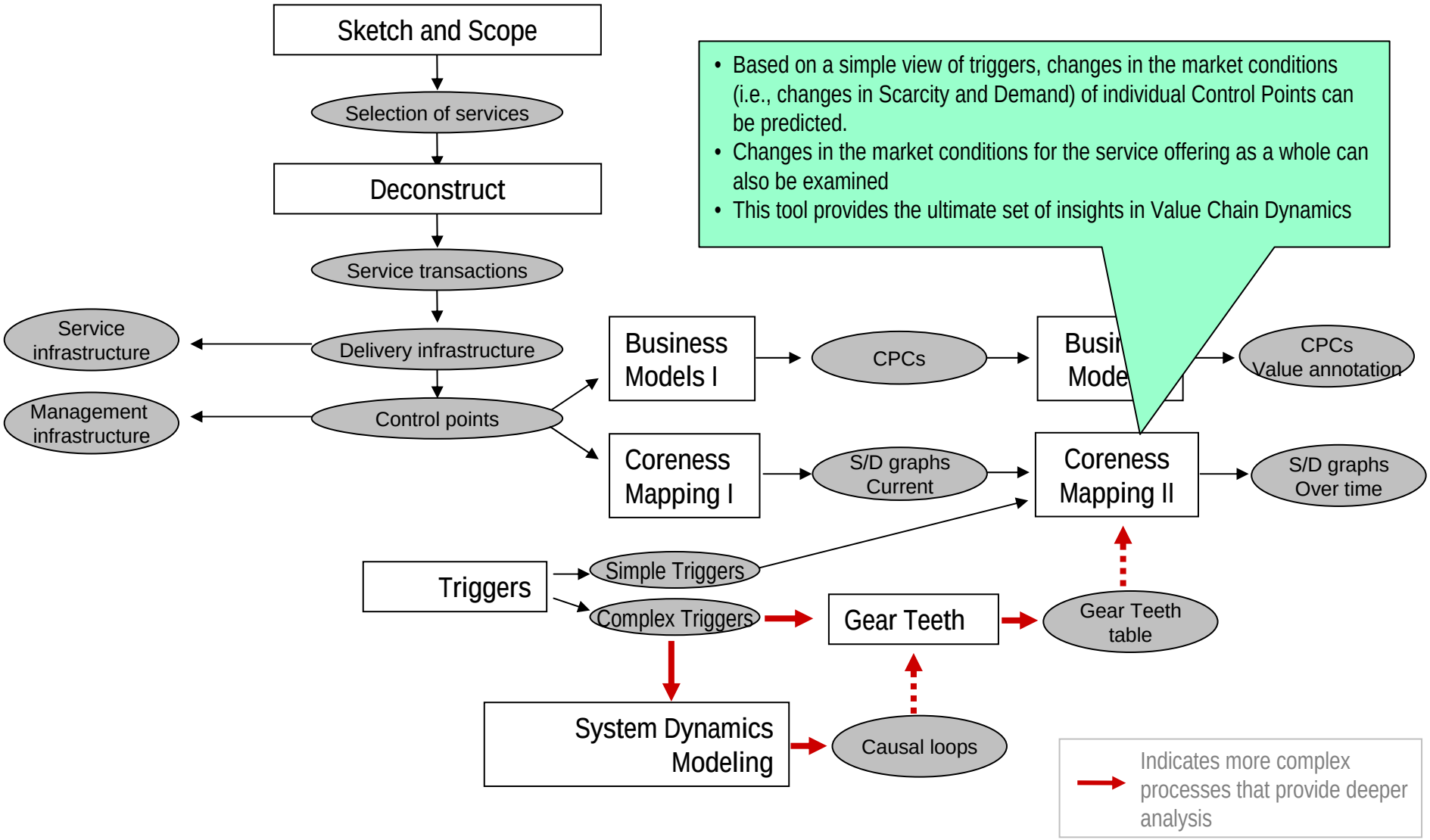


C1. Simple Triggers – Digital Music Example

List triggers for each category – simplified version (#73)

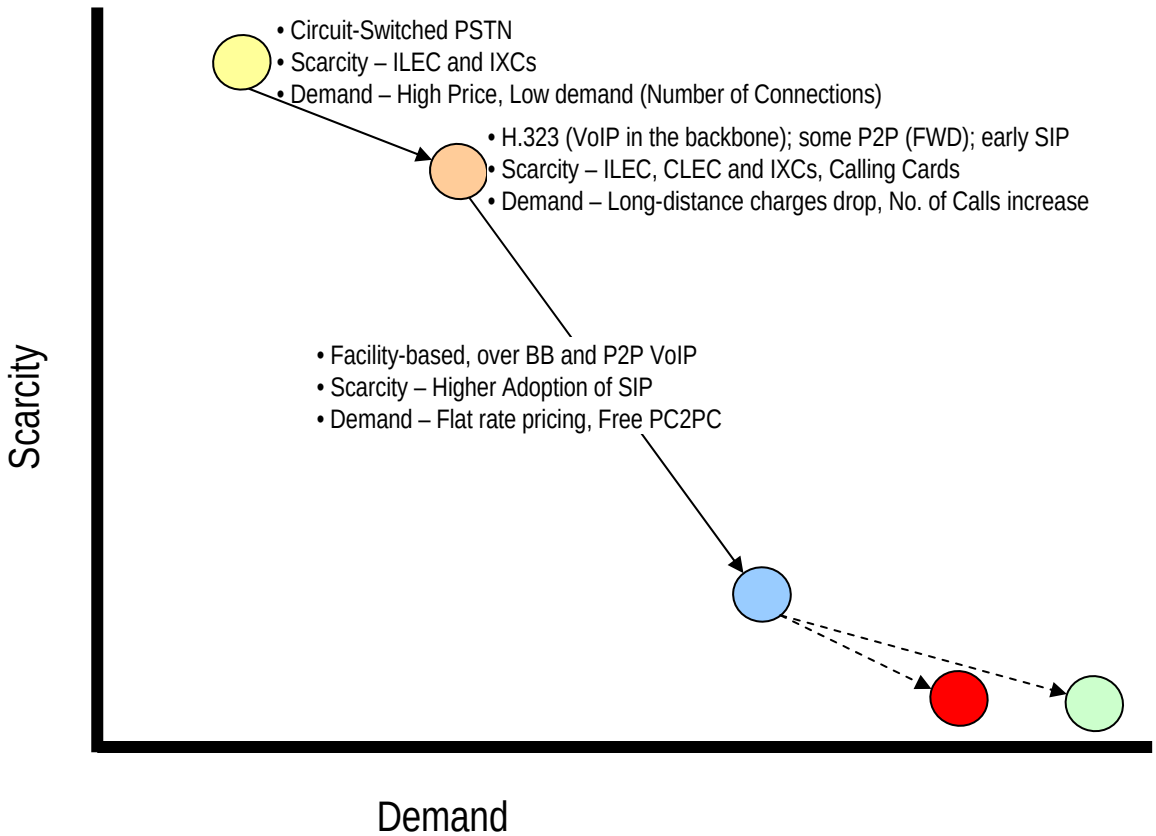
Technology	Regulation	Business strategy	Behaviors
• P2P networks enable unauthorized file-sharing • Portable digital players extend the digital user experience • DRM enables authorized services • Portable DRM enables "to-go" subscription models • Cell phones integrate music functionality • Portable devices integrate more media functionality • Mobile phone networks enable mobile procurement	• Copyright law • Legality of P2P networks • Economic (anti-trust)	• Free music competes with authorized services • Subscription models compete with pay per track • Singles compete with albums • Labels sign with digital services (or not) • DRM is used to tie music to software and/or hardware • Mobile carriers support or reject music phones • Mobile carriers create their own digital music services or partner with existing service providers • Lack of open DRM standards stifles growth of mobile market	*Users* • Create unauthorized P2P networks (start stealing) • Hack/circumvent DRM (keep on stealing) • Respond to legal action (stop stealing or get better at it) • Respond to legal alternatives (start buying) • Demand portable players • Demand music phones • Demand mobile procurement • Rent vs own • Share playlists rather than music files – rise of personal radio • Cultures/markets segment along architectural lines *Artists* • Choose free P2P vs legal online stores • Choose alternative license/compensation systems

Value Chain Dynamics Toolkit



D1. Coreness Mapping II – Control Point Level – VoIP Example

Trends in Call Signaling, VoIP example (#83)



Guidelines

- These are rough plots meant to give a general sense of value "low," "medium," and "high" values, relative positions (i.e., lower than, higher than), and movement over time (i.e., increase, decrease)
- Use Trigger outputs to determine changes in Scarcity & Demand
- When plotting scarcity, think about how the number of providers indicates the degree of commoditization or monopolization of the market
- When plotting demand, think about market share
- Detailed data can be used for more precise graphs

1995

2000

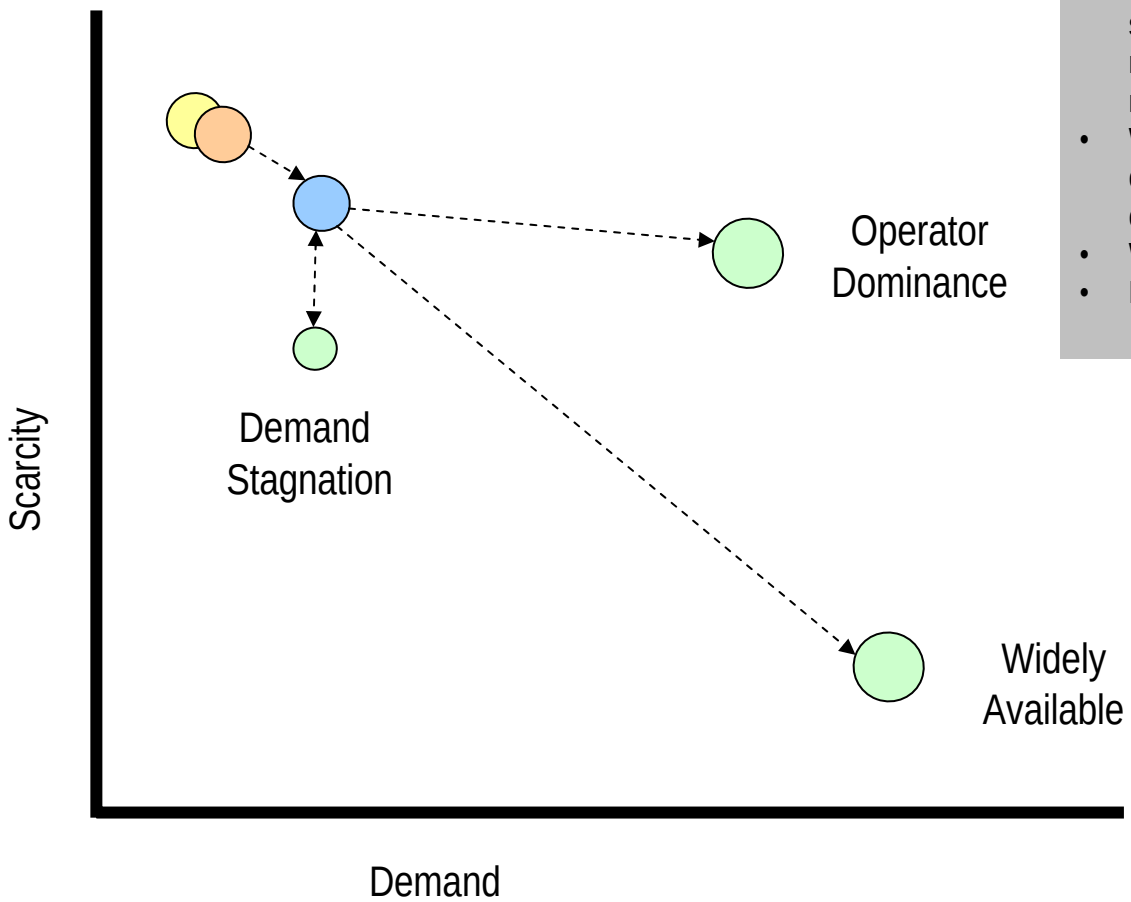
2005

Future Commoditization

Future VoIP-inside

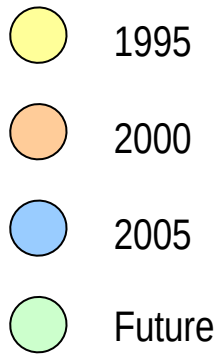
D1. Coreness Mapping II – Service Offering Level – LBS example

The future of Location Based Services (#85)



Guidelines

- [Insert explanation for how to view Service Offerings as "sum total" of Control Points.]
- These are rough plots meant to give a general sense of value "low," "medium," and "high" values, relative positions (i.e., lower than, higher than), and movement over time (i.e., increase, decrease)
- When plotting scarcity, think about how the number of providers indicates the degree of commoditization or monopolization of the market
- When plotting demand, think about market share
- Detailed data can be used for more precise graphs



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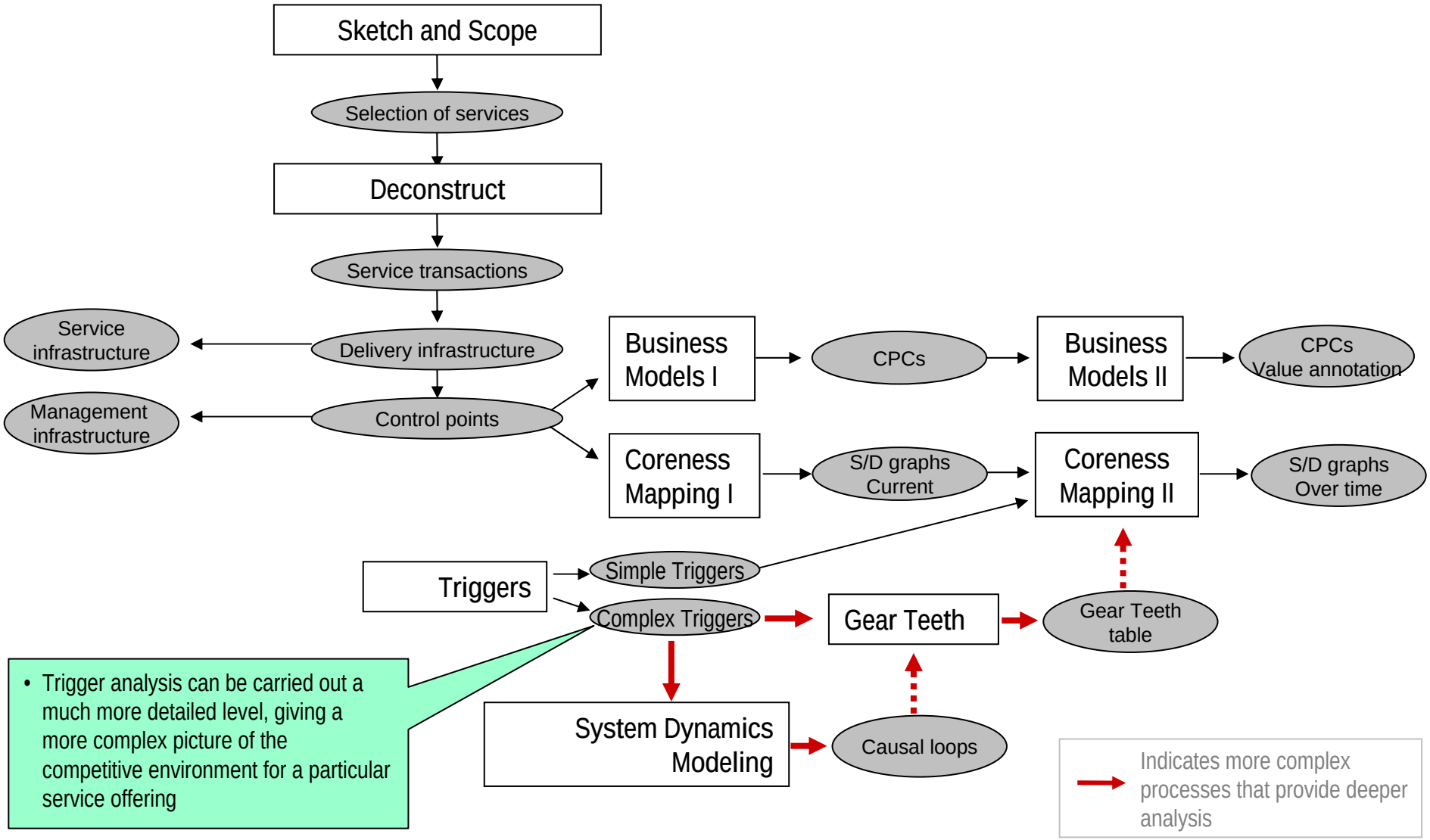

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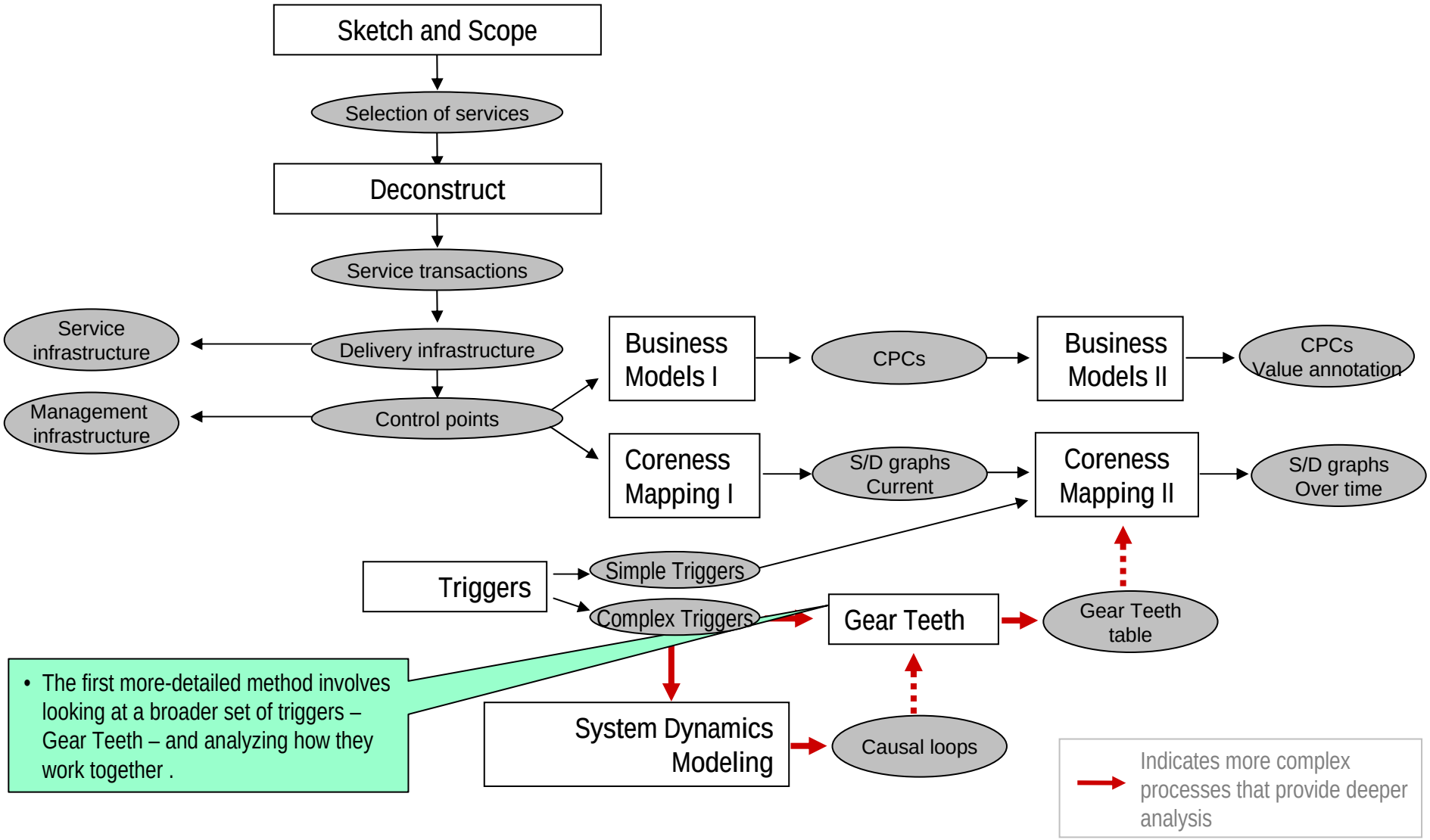


C1. Complex Triggers – VoIP example

List triggers for each category of Gears -- complex version (#72)

Technology

convergence
VoIP capable devices
voice quality
feature integration
service mobility options
number portability options
availability of virtual phone numbers
secondary phone numbers per line
security technologies
privacy technologies
encryption schemes
Latency
VoIP applications
arbitrage opportunity
new Features available
available features
size of namespace
PSTN interconnectivity
legacy feature Compatibility
broadband deployment
end-to-end IP networks
WiFi Hotspots
WiMax deployment
community networks

Regulation

propensity for deregulation
subsidies
barrier to entry
cost of regulation
unbundling local loop
congressional pressure
public pressure
lobbying
regulations
social regulation
economic regulation
interconnection charges
time to develop technology to meet regulatory needs
technology availble to meet regulatory needs
feasibility of developing technology
regulatory delays
regulatory unclarity

Industry Structure

Number of Namespaces
number of basic service providers
number of premium service providers
number of service providers
number of equipment providers
vertical disintegration
vertical integration
mergers and acquisitions

Customer Preferences

demand for features
stickiness to service
concern for privacy
concern for security
tolerance for voice quality
perceived coolness
peer pressure

Regulation

demand for features
stickiness to service
concern for privacy
concern for security
tolerance for voice quality
perceived coolness
peer pressure

Business Cycle

monthly price
Voice communications cost
cost pressures
pressure to reduce deployment costs
pressure to reduce operation costs
number of service providers
number of equipment providers
Number of developers
service and installation personelle

Corp. Strategy

call blocking
economic arbitrage
lobbying
number of basic service providers
number of premium service providers
service availability
monthly price
price bundling
in-service calling plans
cost of registring on the namespace

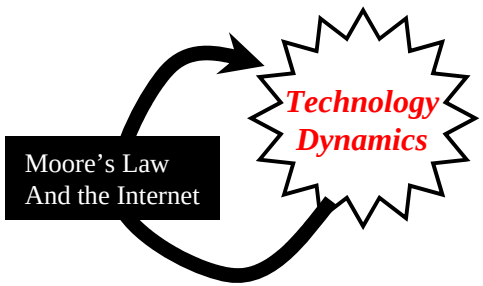
X4. Complex Trigger Dynamics

p. 33-42

- Trigger dynamics examine the forces that cause changes in business models and industry value chains
- Our approach takes into account 7 types of triggers, viewed in relation to one another, as a set of interlocking gears:
  - Technology
  - Regulation
  - Customer preference
  - Corporate strategy
  - Business cycles
  - Industry structure
  - Capital market

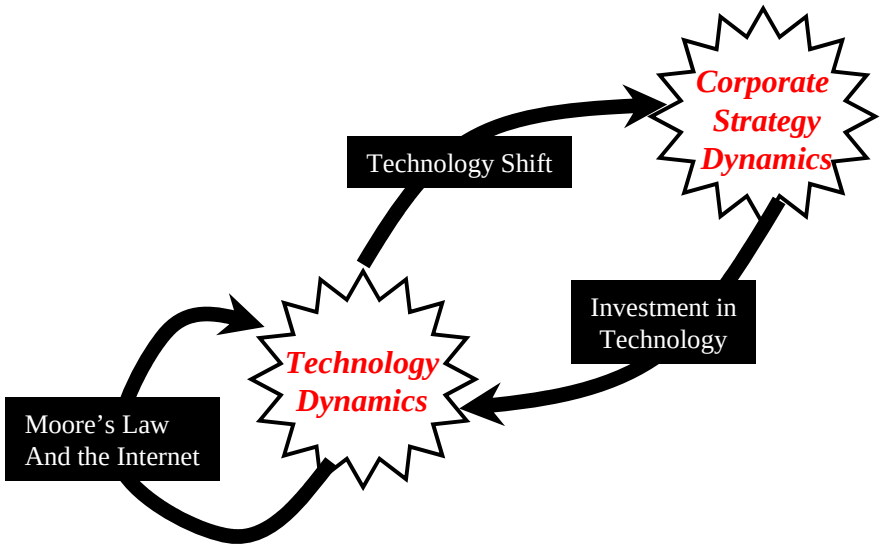
X4. Complex Trigger Dynamics

It begins with Technology Dynamics



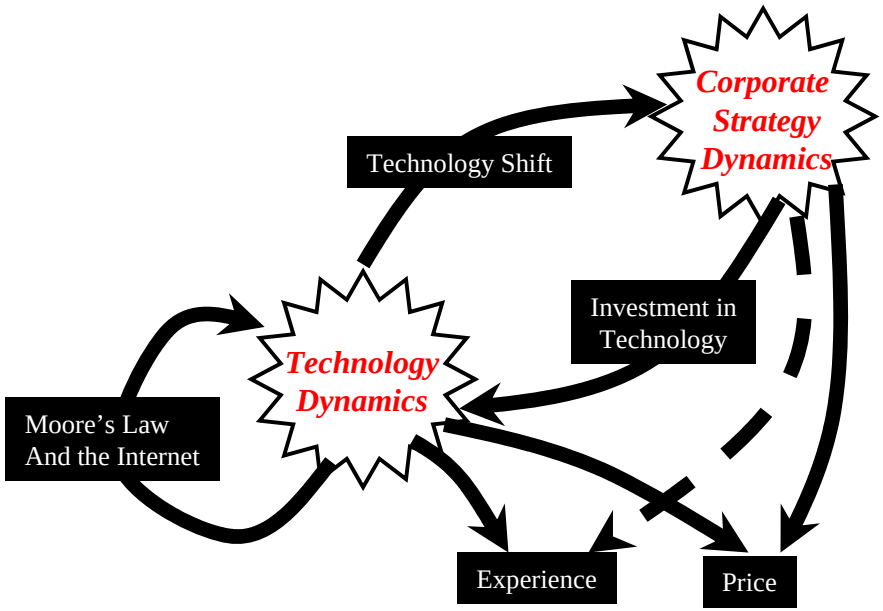
X4. Complex Trigger Dynamics

New Technology drives Corporate Investments



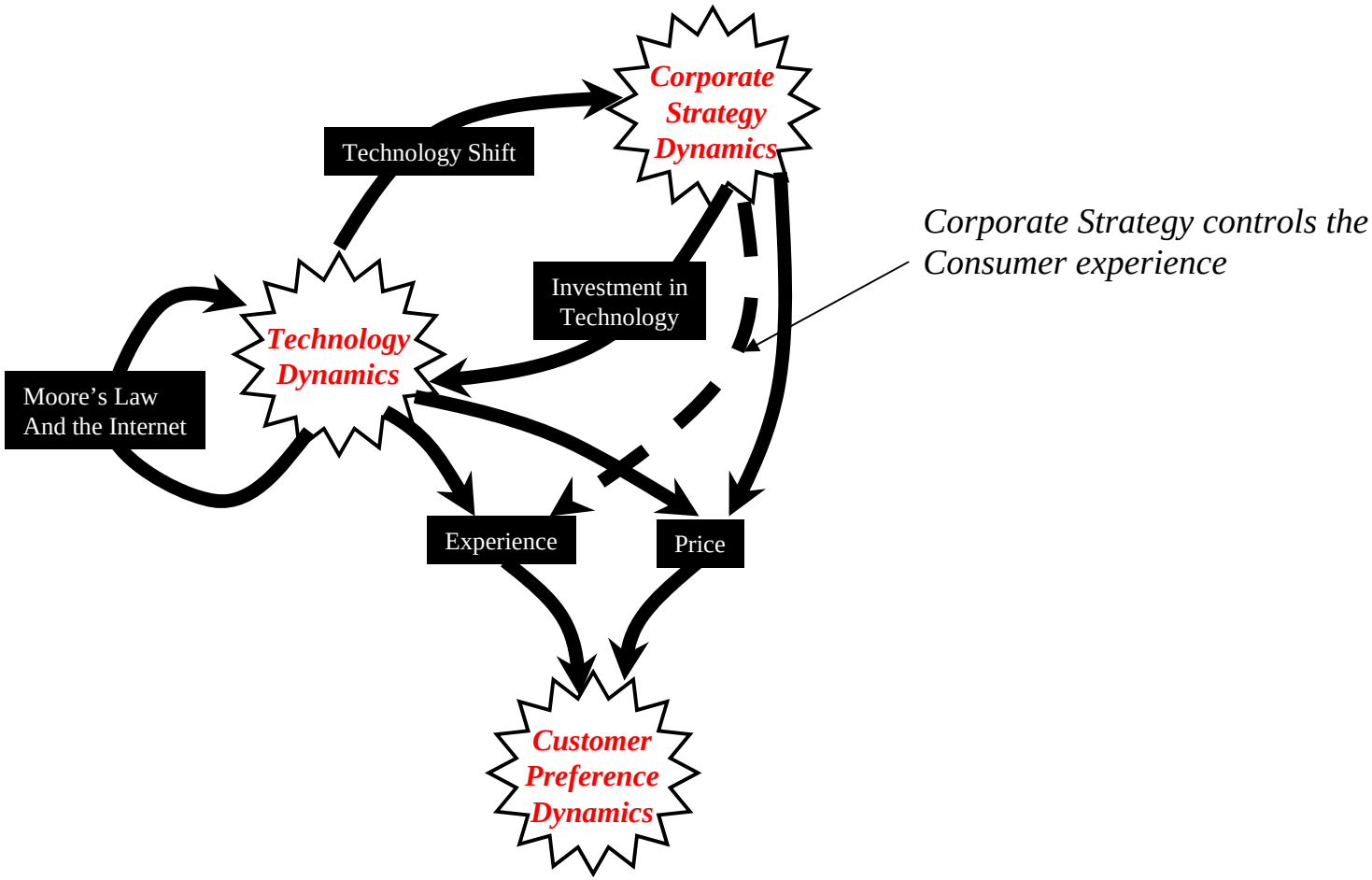
X4. Complex Trigger Dynamics

Technology and Corporate Strategy shape Price and Experience



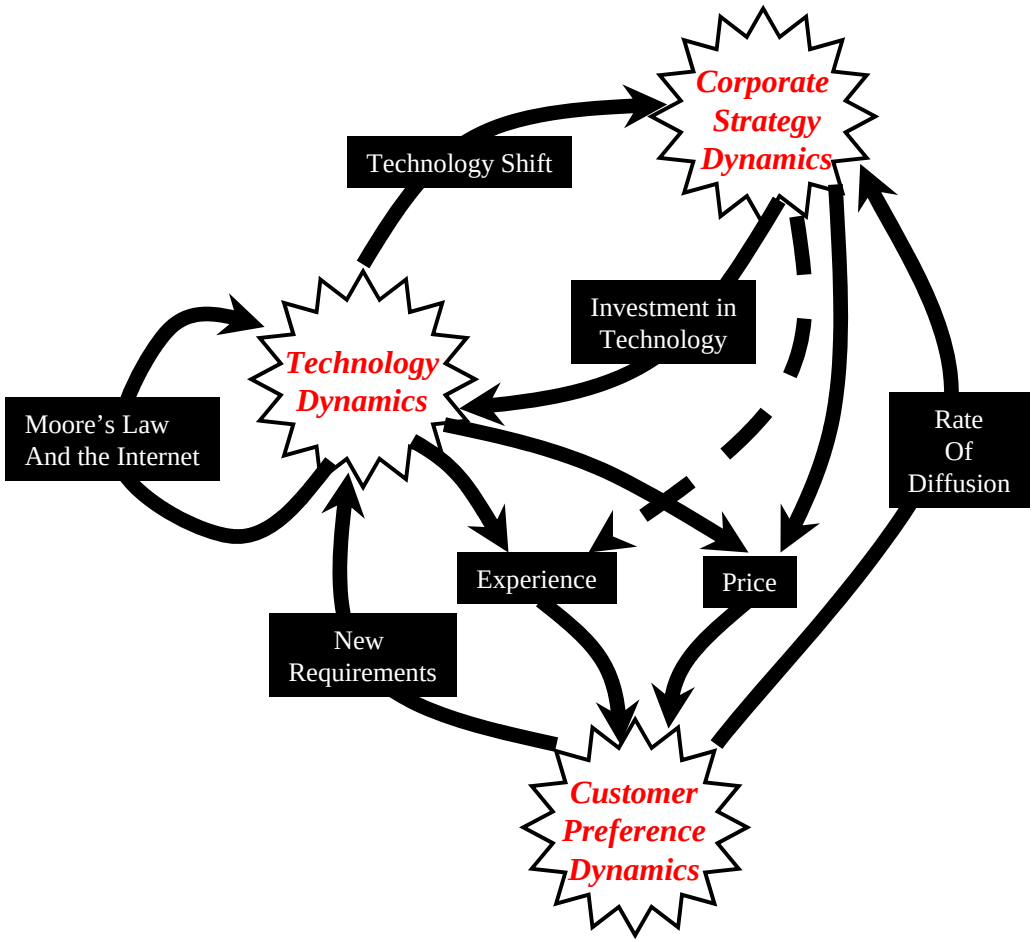
X4. Complex Trigger Dynamics

Price and Experience shape Consumer Preferences



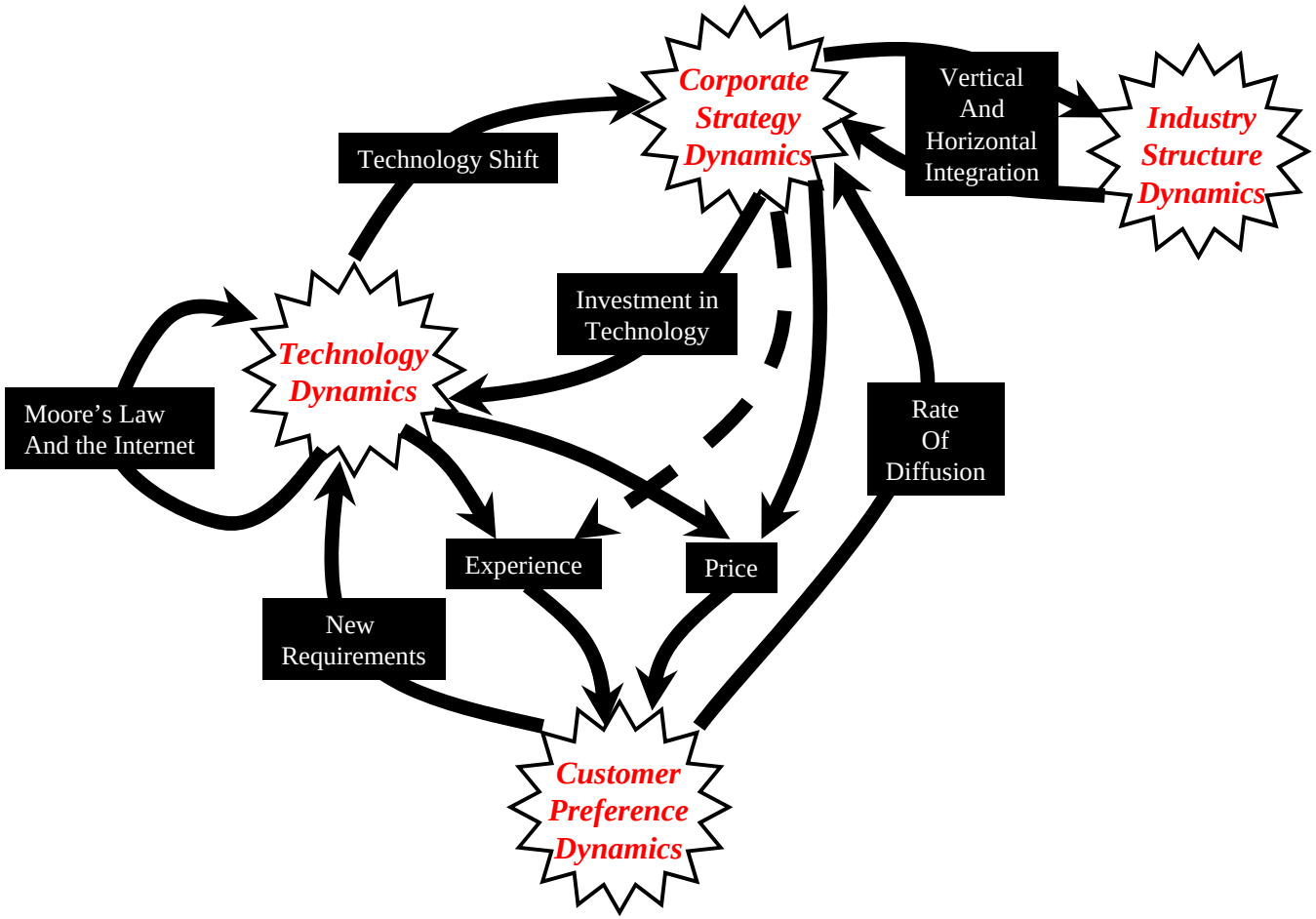
X4. Complex Trigger Dynamics

Consumer Preferences churn Technology and Corporate Strategy Dynamics

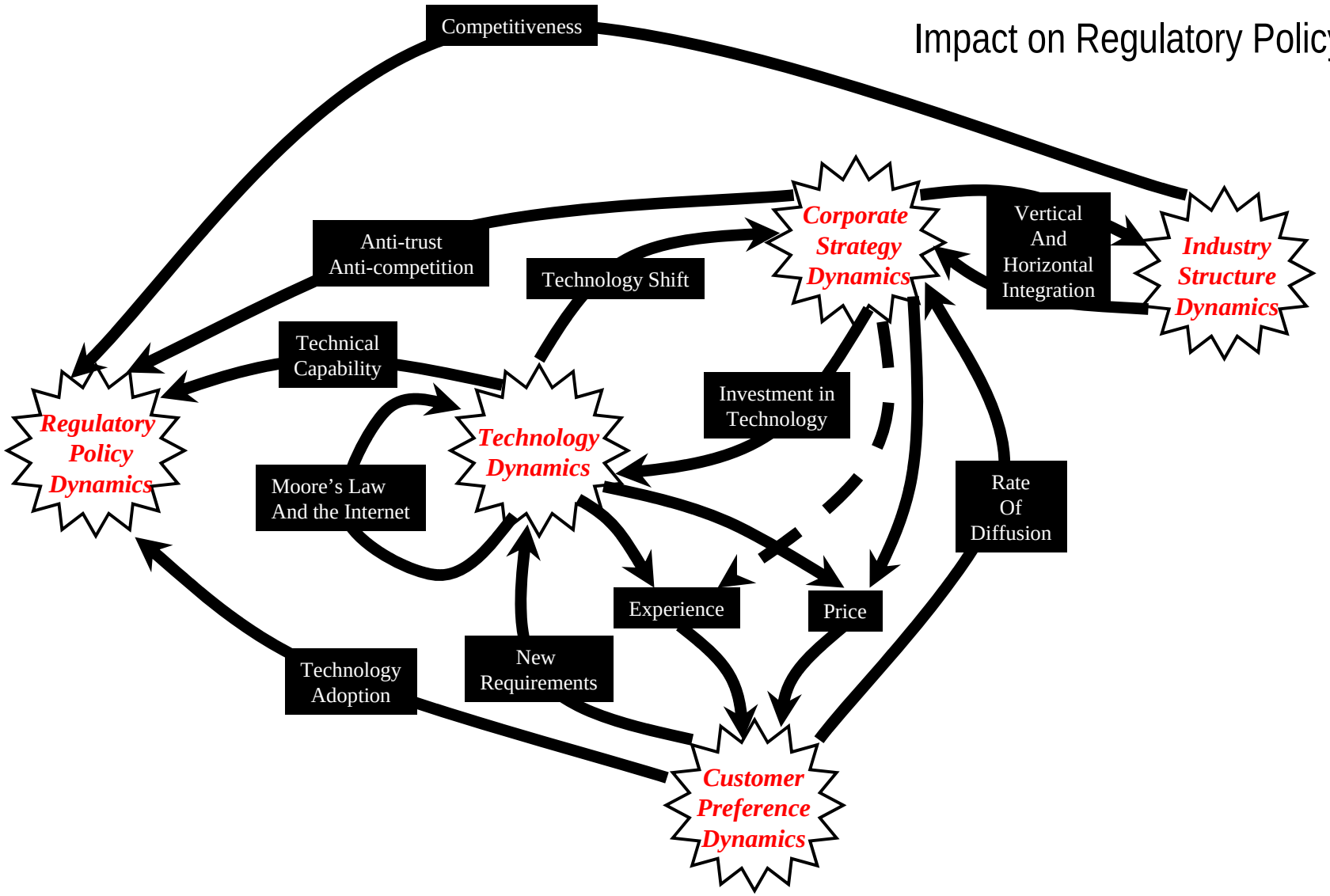


X4. Complex Trigger Dynamics

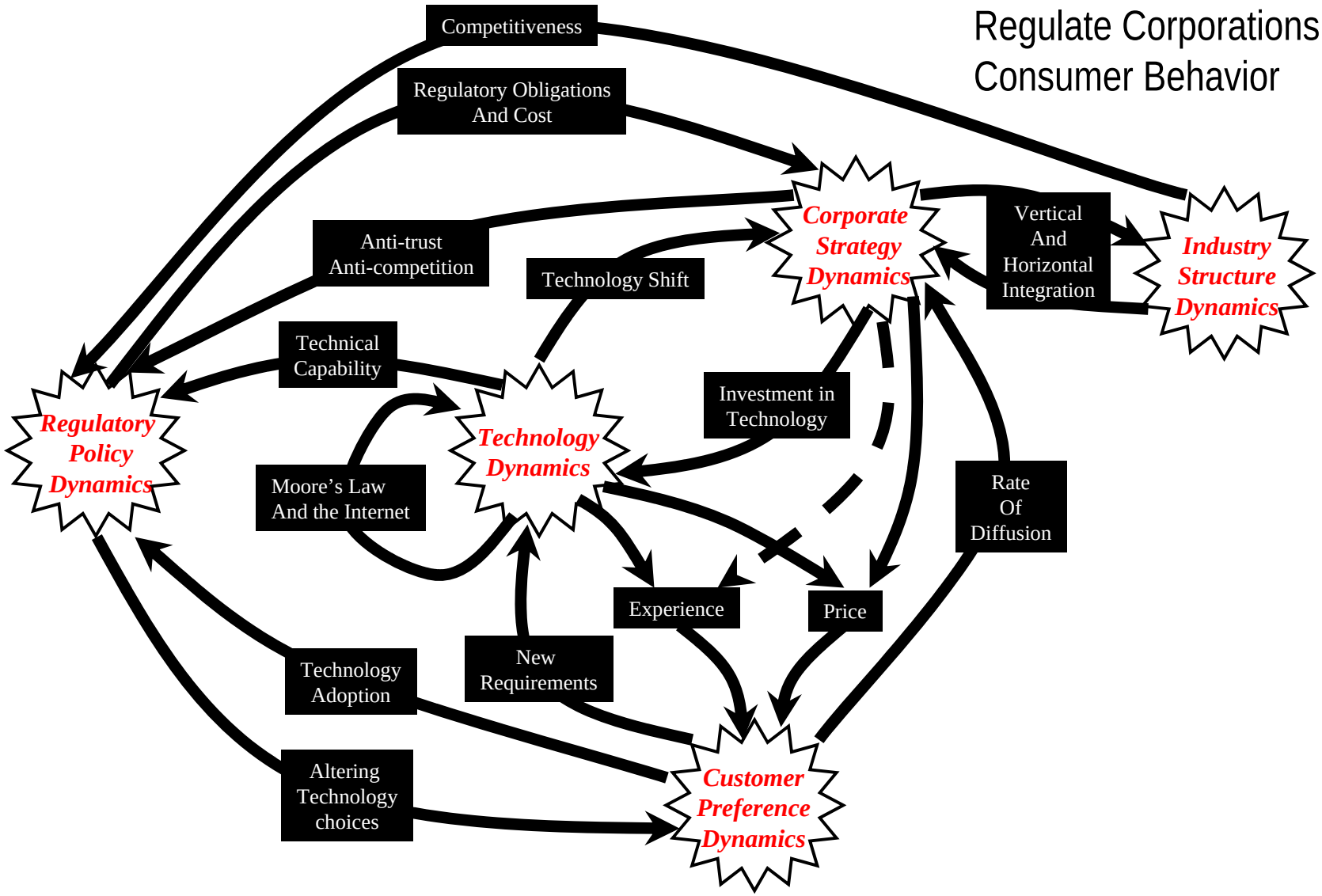
Corporate Strategy determines the Industry Structure



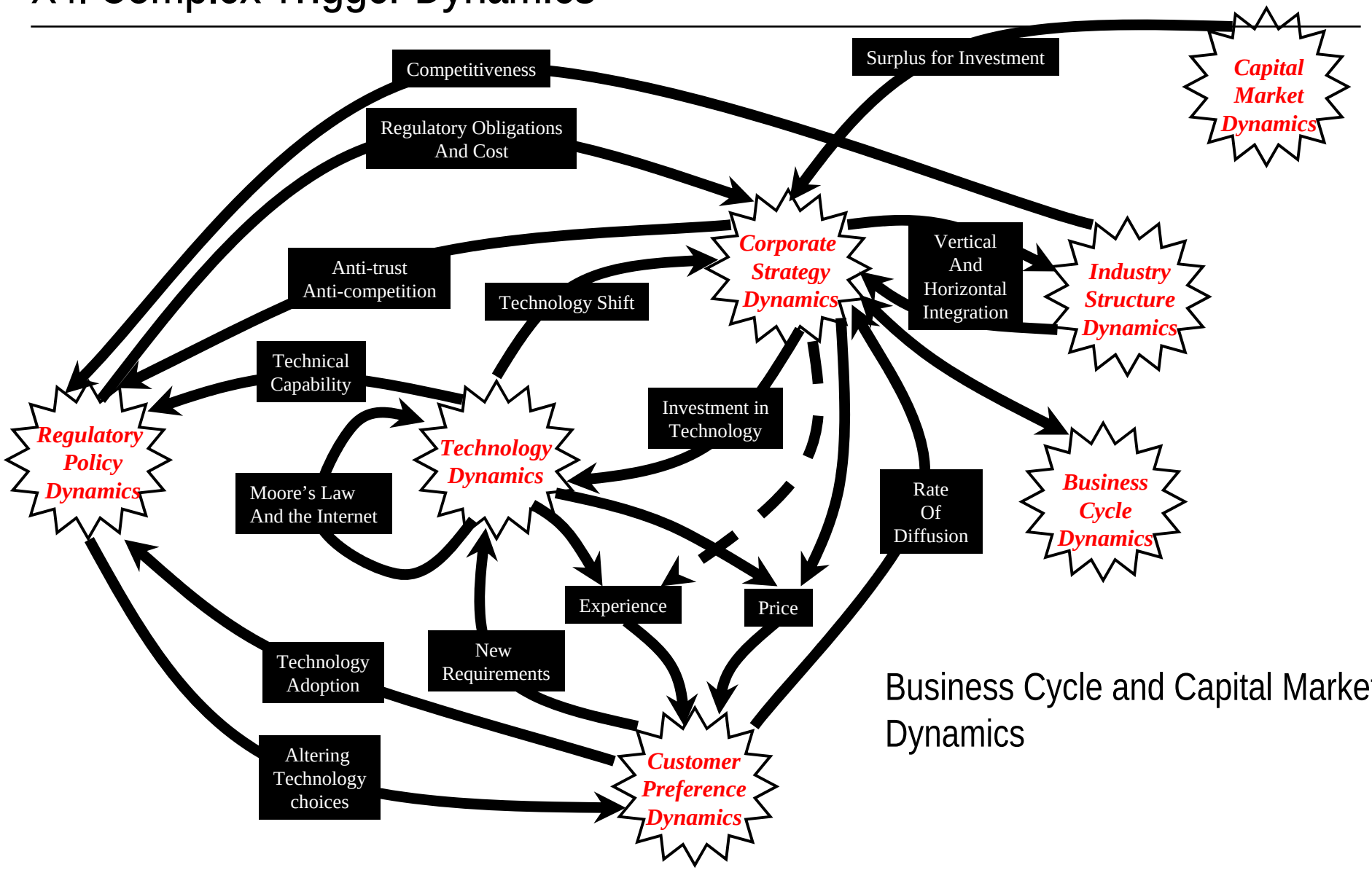
X4. Complex Trigger Dynamics



X4. Complex Trigger Dynamics



X4. Complex Trigger Dynamics



Business Cycle and Capital Market Dynamics

C2. Complex Trigger Dynamics – VoIP example

Examine how Gears interact with one another (p. 80)

(italics indicate we already have some data)

	Business cycles	Industry/ Organization Structure	Regulatory Policy	Technology	Consumer Preferences	Corporate Strategy	Clockspeed
Business Cycles		*downturn caused dis-integration and exits*	*downturn slowed VoIP regulations !!!*	*downturn stifled R&D investment*	*downturn moderated consumers zeal to migrate to VoIP*	Downturn triggered outsourcing	
Industry/ Organization Structure	Integration buffers downturns	*In Disintegration Cycle*			*VoIP related services: unified messaging, IP trunking based call centers*		*disintegration increased innovation*
Regulatory Policy				*regulated incumbent, unreg new entrants. Incumbent also innovates*			unregulated innovate faster
Technology		*Innovation attacked incumbents*	*Innovation has caused regulatory misalignment*	*In Disintegration cycle*	innovation slowdowns drive brand investment?		technology innov drives clockspeed
Consumer Preferences				*Architectural Cannibalization*			branding slows disintegration? project frequency drives Capab. life?
Corporate Strategy		branding slows disintegration?		*Architectural Cannibalization*			
Clockspeed	faster innovation moderates downturns			customer power drives clockspeed		Capability life drives project frequency	

Value Chain Dynamics Toolkit