

# **The Core-Edge Dynamics Toolkit**

# Core-Edge Dynamics Toolkit

## Objective:

- **Turn methodology into step-by-step tools for sponsors to apply to their own case studies**

## Approach:

- **Use current taxonomy and methodology**
- **Apply methods and lessons learned from case studies**
- **Create worksheets to produce the “outcomes”**
- **Update throughout the research program (e.g., adding System Dynamics)**

# Core-Edge Dynamics Toolkit

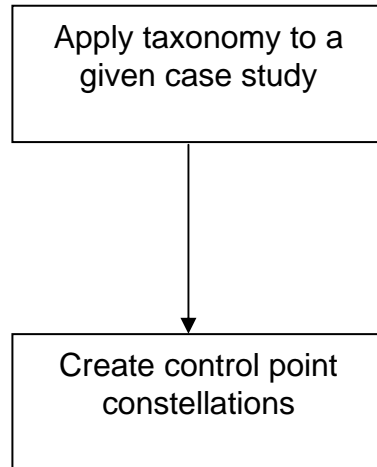
**Brief review of the steps**

# Taxonomy & Control Point Constellations

## OBJECTIVE

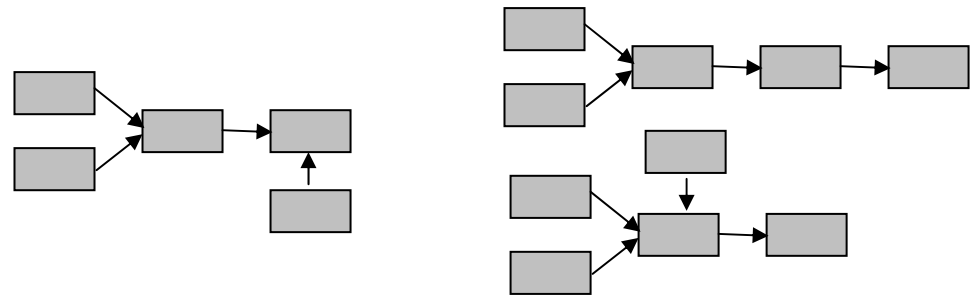
1. Enumerate possible control points for a given service
2. Enumerate varying business models

## METHOD



## OUTCOME

	Offering A	Offering B	Offering C
Service transactions	...	...	...
Control points	...	...	...
Delivery infrastructure	...	...	...
Service infrastructure	...	...	...
Management infrastructure	...	...	...
...	...	...	...

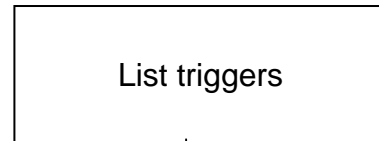


# Trigger Dynamics

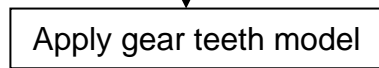
## OBJECTIVE

3. Identify triggers causing change of business

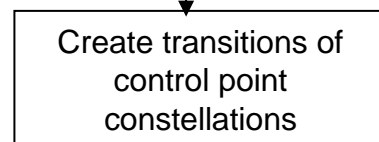
## METHOD



4. Identify Trigger Dynamics



5. Capture cause-and-effect of triggers

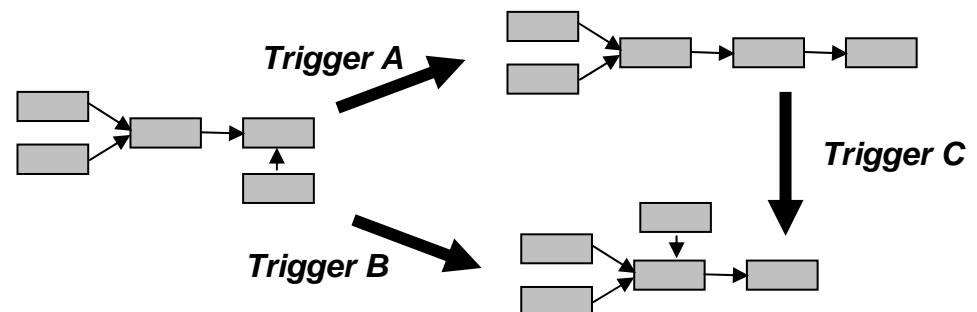


## OUTCOME

Technological	Regulatory	Social	Business
...	...	...	...
...	...	...	...

Let us take the following Gear Teeth Dynamics (from C.H. Fine Presentation)

	Business cycles	Industry/ Organization Structure	Regulatory Policy	Technology	Consumer Preferences	Corporate Strategy	Clockspeed
Business Cycles		Downturns trigger dis-integration		downturns stifle R&D investment		Downturn triggers outsourcing, Search for smoothness	
Industry/ Organization Structure	Integration buffers downturns		regulation slows incumbent innovation		Wrap services around commodities		Integrity slows clockspeed
Regulatory Policy		innovation attacks incumbents & supports integration		innovation can obsolete regulations			deregulation speeds innovation
Technology			Integrality Disintegration		innovation slows down niche brand investment		technology slows clockspeed
Consumer Preferences						branding slows disintegration project	Frequency drives CapEx, etc.
Corporate Strategy		branding slows disintegration				capacity utilization drives project frequency	
Clockspeed	fast innovation moderates downturns			customer power drives clockspeed			



# Value Annotation & Coreness Path

## OBJECTIVE

6. Annotate Control Points with Value

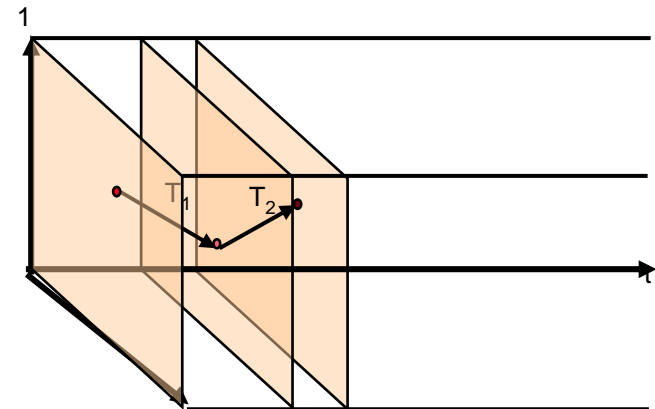
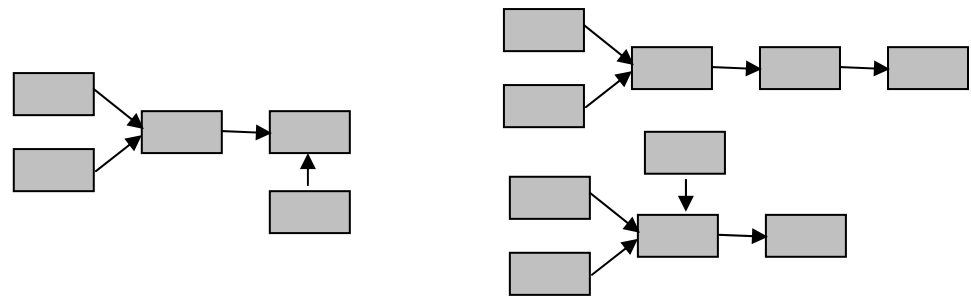
## METHOD

Create value networks

7. Coreness Evaluation

Create Coreness Path

## OUTCOME



# Core-Edge Dynamics Toolkit

**Worksheet examples**

# Step 1: Apply taxonomy to a chosen product

## Example: Location Based Services

	Garmin Street Pilot	Pharos Pocket GPS Navigator	Avis Assist
<b>FUNCTIONALITY</b>			
<b>Service transactions</b>	<ul style="list-style-type: none"> <li>• Receive WAAS/GPS signal</li> <li>• Lookup position on maps</li> <li>• Trace signals on map</li> <li>• Store routes</li> <li>• Purchase device from retailer</li> <li>• Software updates</li> </ul>	<ul style="list-style-type: none"> <li>• Receive GPS signal</li> <li>• Transfer location via Bluetooth to other device with software</li> <li>• Lookup position on maps</li> <li>• Trace signals on map</li> <li>• Purchase device from retailer</li> </ul>	<ul style="list-style-type: none"> <li>• Call to initiate service</li> <li>• Receive GPS signal</li> <li>• Lookup position on maps</li> <li>• Trace signals on map</li> <li>• Daily phone rental from Avis</li> </ul>
<b>Control points</b>	<ul style="list-style-type: none"> <li>• Software creation</li> <li>• Software distribution</li> <li>• Device manufacture</li> <li>• Device distribution</li> <li>• Location collection</li> <li>• Location management</li> <li>• Map creation</li> <li>• Map distribution</li> </ul>		



# Step 1: Apply taxonomy to a chosen product

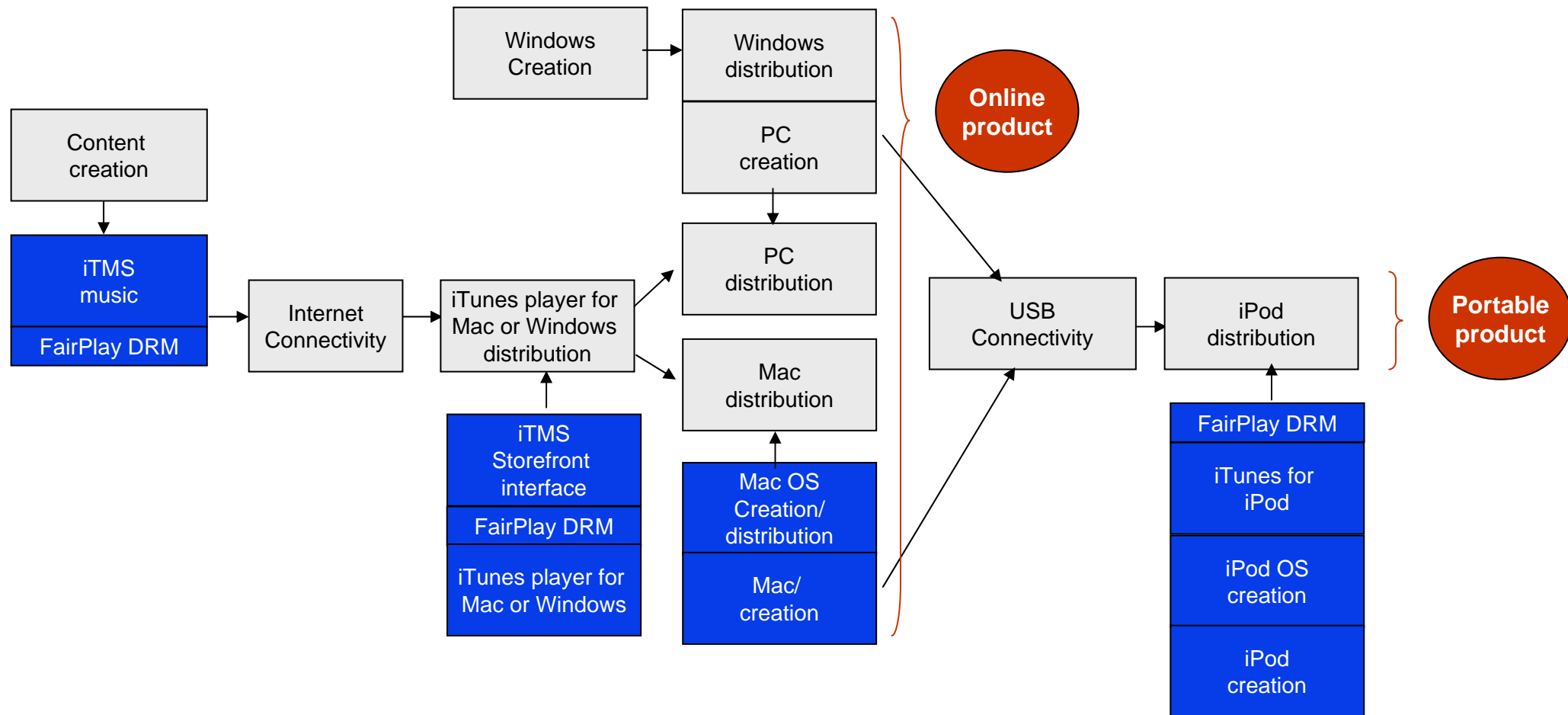
## Example: Location Based Services (con't)

	Garmin Street Pilot	Pharos Pocket GPS Navigator	Avis Assist
<b>INFRASTRUCTURE</b>			
<b>Delivery infrastructure</b> <i>(The transportation resources required for product creation.)</i>	<ul style="list-style-type: none"> <li>• GPS Network</li> <li>• WAAS (Wide Area Augmentation System) Network</li> <li>• Public Internet</li> <li>• Rent-a-Car Network</li> <li>• Call Center</li> <li>• Retail Network</li> </ul>		
<b>Service infrastructure</b> <i>(How the delivery infrastructure resources are arranged.)</i>			
GPS Network	Centralized	Centralized	Centralized
WAAS Network	Centralized	n/a	n/a
Public Internet	Decentralized	n/a	n/a
Rent-a-Car Network	n/a	n/a	Centralized
Call Center	n/a	n/a	Centralized
Mobile Phone Network	n/a	n/a - PDA	Centralized
Retail Network	Decentralized	Decentralized	n/a

**Etc....**

# Step 2: Create Control Point Constellations

## Example: Digital Music Services – iTunes Music Store



# Step 3: List triggers

## Example: Digital Music Services

### Technology

- P2P networks enable unauthorized file-sharing
- DRM enables authorized services
- Mobile phone networks enable mobile procurement and/or portable listening
- Portable digital players extend the digital user experience
- Procurement, storage, playback, transfer capabilities of devices
- Devices capabilities for procurement, storage, playback (fixed and mobile)

### Business

- Free music limits competitiveness of authorized services
- Subscription models reduce the appeal of owning music
  - Harder to justify storage costs
  - Play list/index replaces tracks as the object of ownership
- Labels sign with digital services
  - client/server models attract majors only so far
  - P2P networks attract indies only so far
- DRM used as a product-tying strategy by service providers (Apple iTunes)
  - Sabotaged by other service providers (RealNetworks)

### Regulatory

- Copyright law
- Legality of P2P networks
- Economic (anti-trust law)

### Social behaviors

- Users
  - create unauthorized P2P networks (started stealing)
  - hack/circumvent DRM (keep on stealing)
  - respond to RIAA legal action (stop stealing)
  - respond to legal alternatives (start buying)
  - demand mobile listening (service built around the portable player, e.g., iTunes + iPod)
  - demand mobile procurement (cell-phone shopping for music)
  - demand device convergence/seamlessness
  - rent (streaming) and/or own (downloading) music
    - Sharing playlists rather than music files – rise of personal radio
- Artists
  - Choose cheap/free distribution and promotion via P2P networks
  - Choose alternative license/compensation systems
  - Cultures/markets segment along architectural lines
    - P2P vs client/server becomes analogous to Sundance vs Hollywood in the film industry
    - Potential conflict re Apple anti-establishment culture tied to iPod

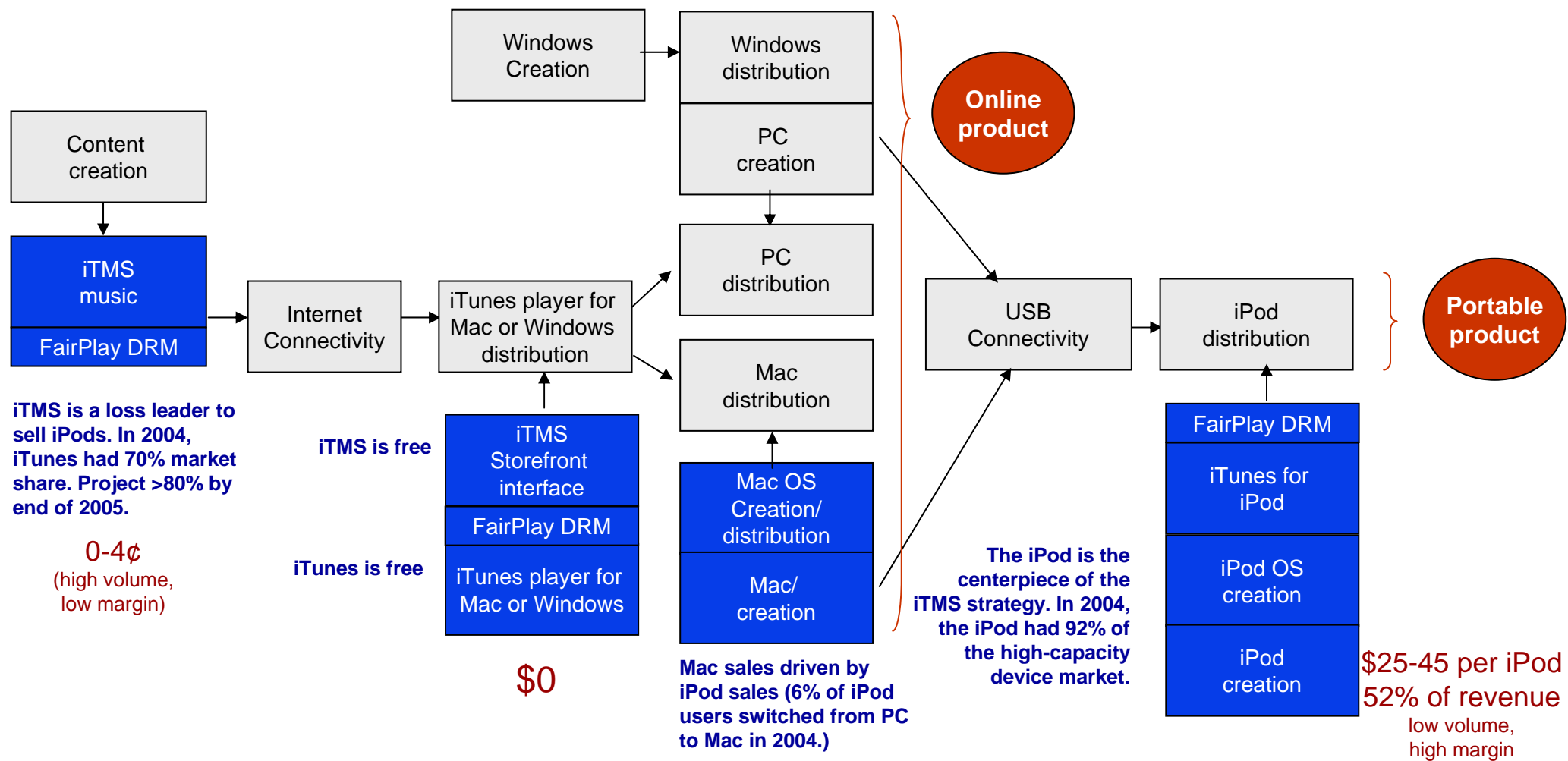
# Step 4: Apply Gear Teeth Model

Let us take the following Gear Teeth Dynamics (from C H Fine Presentation)

	Business cycles	Industry/ Organization Structure	Regulatory Policy	Technology	Consumer Preferences	Corporate Strategy	Clockspeed
Business Cycles		Downturns trigger dis-integration		downturns stifle R&D investment		Downturn triggers outsourcing; Search for smoothness	
Industry/ Organization Structure	Integration buffers downturns	Integration/ Disintegration			Wrap services around commodities		integrity slows clockspeed
Regulatory Policy				regulation slows incumbent innovation			deregulation speeds innovation
Technology		innovation Attacks incumbents & supports integration	innovation can obsolete regulations	Integration/ Disintegration	innovation slowdowns drive brand investment		technology innov drives clockspeed
Consumer Preferences							branding slows disintegration project frequency drives Capab. life
Corporate Strategy		branding slows disintegration					
Clockspeed	faster innovation moderates downturns			customer power drives clockspeed		Capability life drives project frequency	

# Step 6: Create Value Networks

## Example: Digital Music Services – iTunes Music Store



# Step 7: Create Coreeness Path

## Example: VoIP

### Evolving Coreeness of Call Signaling

