INFO5992 Week 3 Cheatsheet

Disruptive Innovation & Innovator's Dilemma
University of Sydney

CORE CONCEPTS

Disruptive Innovation (Christensen, 1997)

Definition: A *process* whereby a smaller company with fewer resources successfully challenges established incumbent businesses.

Key Characteristics:
- Not a product at one point, but **evolution over time**
- Targets markets **overlooked by incumbents**
- Creates **new markets** or changes **value networks**

TYPES OF INNOVATION

1. Disruptive Innovation Targets overlooked/unserved markets

A. Low-End Disruption
- Serves customers who don't need full functionality
- Offers "good enough" at lower prices
- Starts bottom, moves upmarket
- *Examples:* Netflix (DVD), Chromebooks, Telemedicine

B. New-Market Disruption
- Creates entirely new markets
- Converts non-consumers to consumers
- Different performance metrics
- *Examples:* Google Cloud ML, Tesla, Robinhood

2. Sustaining Innovation
- Improves products for existing customers
- Moves upmarket to profitable segments
- Incremental or breakthrough improvements

HOW DISRUPTION HAPPENS

Low-End Process:
1. Incumbents focus on demanding customers
2. Incumbents overshoot some needs, ignore others
3. Entrants target overlooked segments (lower price)
4. Incumbents don't respond (chasing profits)
5. Entrants improve quality & move upmarket
6. Mainstream customers adopt → **Disruption!**

New-Market Process:
1. Identify non-consumers/unserved markets
2. Create product with different metrics
3. Serve new market initially
4. Improve quality over time
5. Induce defection from existing market

CASE STUDY CLASSIFICATIONS

Company	Low-End?	New-Mkt?
Netflix	Yes	No
Uber	Yes & No	No
Google ML	No	Yes
Tesla	No	Yes
Kindle	Yes & No	Yes & No

VALUE CHAIN & NETWORK

Value Chain (Porter, 1985) How value is created and passed between industry participants

Value Network Similar but focuses on whole ecosystem with complex relationships

Critical Insight: Disruptors entering existing value networks must conform → often fail. **Success requires creating NEW value networks.**

Example Industries:
- *Microprocessors:* Architecture → Design → Fab → Manufacturing
- *Wearables:* Tech → Devices → Connectivity → Apps
- *Autonomous:* Tech → Manufacturer → Systems → Operator

INNOVATOR'S DILEMMA

The Problem Successful companies fail by doing everything "right":
1. Study customer needs carefully
2. Innovate to meet those needs
3. Focus on profitable high-end customers
4. Pursue sustaining innovations
5. Ignore disruptive opportunities

Why It Happens
- Existing customers don't want disruptive products initially
- Disruptive markets appear too small
- Lower profit margins in new/low-end markets
- Resources allocated to sustaining innovations
- Lock-in to existing value networks

Examples: Kodak (digital camera), Blockbuster (streaming), Nokia (smartphones)

SOLUTION: AMBIDEXTERITY

Definition: Ability to simultaneously **EXPLORE** and **EXPLOIT**

LEFT HAND EXPLOIT	RIGHT HAND EXPLORE
Serve existing clients	Focus on innovation
Optimize operations	Experiment new markets
Sustaining innovation	Disruptive innovation
Protect core business	Create opportunities

Implementation:
- Separate organizational units
- "Skunkworks" teams with different metrics
- Different business models allowed
- Protect from short-term profit pressures

FRAMEWORK APPLICATION

Analysis Steps:
1. Identify: Sustaining or disruptive?
2. If disruptive: Low-end, new-market, or both?
3. Identify: Incumbents, entrants, customers
4. Analyze value chain/network changes

5. Assess innovator's dilemma implications
6. Consider ambidexterity solutions

Key Decision Questions:
- Targets overserved customers? → Low-end
- Creates new market/converts non-consumers? → New-market
- Improves for current customers? → Sustaining
- Incumbent at risk despite doing right? → Dilemma
- Creates new value network? → Higher disruption

COGNITIVE COMPUTING CASE

Definition Technology simulating human thought processes using:
- Self-learning algorithms
- Data mining & pattern recognition
- Natural Language Processing (NLP)
- Computer vision

Capabilities: Sense, Learn, Infer, Interact

Major Providers:
- Microsoft Azure Cognitive Services
- Google Cloud AI
- IBM Watson

Disruption Analysis:
Low-End Aspects:
- Automates routine tasks cheaply
- Replaces expensive custom AI development
- "Good enough" intelligence via APIs
- Lower cost than hiring data scientists

New-Market Aspects:
- Enables non-experts to use AI
- Creates market among small businesses
- Democratizes ML access
- Rapid experimentation without deep expertise

AGENTIC AI SYSTEMS

Definition Autonomous systems that plan, decide, and execute multi-step complex tasks with minimal human intervention.

Advantages vs Traditional Software:
- **Autonomy:** Plans and executes without human intervention
- **Learning:** Improves from data over time
- **Workflow:** Handles end-to-end processes
- **Scalability:** No proportional human resource increase
- **Resilience:** Reduces errors, improves reliability

Disadvantages:
- Complexity & high investment required
- Privacy & security concerns
- Needs continual oversight
- Potential job displacement
- Infrastructure dependent

Disruption Type: **Both Low-End & New-Market**
- *Low-end:* Automates routine tasks at lower cost
- *New-market:* Opens AI to non-experts & small orgs

Counter-Example: Palantir Foundry **NOT Disruptive** because:
- High-cost, sophisticated platform
- Targets established enterprises (not non-consumers)
- Enhances existing capabilities (sustaining)
- Premium, bespoke, expert-dependent

SUCCESS FACTORS

For Disruptors (Entrants):
- Target overlooked segments
- Start with "good enough" product
- Lower cost structure
- New business model
- Avoid direct competition initially
- Create new value network

For Incumbents (Defense):
- Implement ambidexterity strategy
- Create separate units for disruption
- Don't force into existing networks
- Recognize threats early
- Willingness to cannibalize

KEY TERMINOLOGY

Incumbent: Established company in existing market
Entrant: New company with disruptive innovation
Foothold: Initial market position (low-end or new)
Upmarket: Moving to higher-performance segments
Overserved: Getting more performance than needed
Non-consumers: Not using existing products

CHRISTENSEN'S KEY BOOKS

1. **The Innovator's Dilemma** (1997) - Original framework
2. **The Innovator's Solution** (2003) - Creating disruption
3. **Disrupting Class** (2008) - Education
4. **The Innovator's Prescription** (2008) - Healthcare
5. **The Innovative University** (2011) - Higher ed

EXAM TIPS

Common Mistakes to Avoid:
- Thinking all innovation is disruptive (most is sustaining!)
- Confusing "disruptive" with "revolutionary"
- Assuming disruptors always win (many fail!)
- Thinking low quality = disruptive
- Forgetting value network analysis

Always Consider:
- What market is served? (existing low-end or new?)
- How does it evolve over time?
- What's the incumbent's response?
- How does value chain/network change?
- Could ambidexterity address challenge?

CRITICAL INSIGHT:
Disruption is a **PROCESS over TIME**, not a single event or product!

QUICK COMPARISON TABLE

Aspect	Disruptive	Sustaining
Target	Overlooked/ new markets	Existing customers
Performance	Lower initially, improves	Better immediately
Price	Lower cost	Premium possible
Response	Ignored by incumbents	Welcomed
Value Net	Creates new	Stays in existing

Aspect	Low-End	New-Mkt
Customers	Overserved	Non-consumers
Strategy	Good enough, cheaper	New value prop
Entry	Bottom of market	New market
Metrics	Same, lower	Different