Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns

Michael B. Horn
mhorn@innosightinstitute.org
May 26, 2010
Sustaining and Disruptive Innovations

Incumbents nearly always win

Pace of Technological Progress

Performance that customers can utilize or absorb

Copyright Clayton M. Christensen
Disruptive Innovations create asymmetric competition

Incumbents nearly always win

Pace of performance improvement

60% on $500,000

45% on $250,000

Performance that customers can utilize or absorb

40%  ➔  20% on $2,000

Entrants nearly always win

Non-consumers or non-consuming occasions

Different measure of performance

Copyright Clayton M. Christensen
Disruption in business models has been the dominant historical mechanism for making things more affordable and accessible

Yesterday
• Ford
• Dept. Stores
• Digital Eqpt.
• Delta
• JP Morgan
• Xerox
• IBM
• Cullinet
• AT&T
• State universities
• Sony DiskMan

Today
• Toyota
• Wal-Mart
• Dell
• Southwest Airlines
• Fidelity
• Canon
• Microsoft
• Oracle
• Cingular
• Community colleges
• Apple iPod

Copyright Clayton M. Christensen
DISRUPTION OF TOYOTA

ISN’T IT TIME SOMEONE DID TO LEXUS WHAT LEXUS DID TO MERCEDES?

Narrower gaps between body panels, better mileage and roomier than the Lexus LS 460.

The new Hyundai Genesis is our first luxury car, and believe it or not, it’s about to give the market its biggest shake-up since 1989.

The Genesis will take you from zero to 60 in a head-spinning 5.7 seconds—and has more horsepower per liter than a Lexus GS 460. Imagine producing that much power while still getting better mileage than any car in its class.

Impeccable details abound. Example: gaps between body panels are tighter than those found on the standard-bearer for tight tolerances, the Lexus LS 460.

And the Genesis cabin is among the quietest and most spacious available. It’s equipped with a Lexicon® 7.1 discrete surround sound system (shared only with the Rolls-Royce Phantom). And puts you in a driver’s seat that is cooled for summertime, heated for winter.

In a luxury car, there’s no such thing as...
Disruption in business models has been the dominant historical mechanism for making things more affordable and accessible

Yesterday
• Ford
• Dept. Stores
• Digital Eqpt.
• Delta
• JP Morgan
• Xerox
• IBM
• Cullinet
• AT&T
• Sony DiskMan

Today
• Toyota
• Wal-Mart
• Dell
• Southwest Airlines
• Fidelity
• Canon
• Microsoft
• Oracle
• Cingular
• Apple iPod

Tomorrow
• Chery
• Internet retail
• RIM Blackberry
• Air taxis
• ETFs
• Zink
• Linux
• Salesforce.com
• Skype
• Cell Phones
Prime examples of non-consumption

• Developing countries
• Adult/lifelong learning
• Credit recovery
• Drop outs
• AP/advanced courses
• Scheduling conflicts
• Home-schooled and homebound students
• Small, rural, urban schools
• Unit recovery
• Disaster preparedness
• Tutoring
• Professional development
• Pre-K
• After school
• In the home
• Incarcerated youth
• In-school suspension
• School bus commute
• Summer school
• Teacher absenteeism
Understanding how users experience life

“The customer rarely buys what the company thinks it is selling him”

- Peter Drucker
Why does an organizational model lock us in?

**THE VALUE PROPOSITION:**
A product that helps customers do more effectively, conveniently & affordably a job they’ve been trying to do

**REVENUE FORMULA:**
Assets & fixed cost structure, and the margins & velocity required to cover them

**RESOURCES:**
People, technology, products, facilities, equipment, brands, and cash that are required to deliver this value proposition to the targeted customers

**PROCESSES:**
Ways of working together to address recurrent tasks in a consistent way: training, development, manufacturing, budgeting, planning, etc.
### Processes
Ways of working together to address recurrent tasks in a consistent way: training, development, manufacturing, budgeting, planning, etc.

### Profit Formula
Assets & fixed cost structure, and the margins & velocity required to cover them.

### The Value Proposition
A product that helps customers do more effectively, conveniently & affordably a job they've been trying to do.

### Resources
People, technology, products, facilities, equipment, brands, and cash that are required to deliver this value proposition to the targeted customers.

---

Business units don’t evolve. Corporations do.
Centralization followed by decentralization: Computing
The decentralization that follows centralization is only beginning in education.
Online learning gaining adoption

Enrollments up from 45,000 in 2000 to 1,000,000 in 2007

Copyright Clayton M. Christensen
Predictably improving
Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns

INNOVISION

Michael B. Horn
mhorn@innosightinstitute.org
May 26, 2010

Copyright Clayton M. Christensen
Different Systems Architectures

Proprietary, interdependent architectures:
- Microsoft Windows;
- Apple products

Customization is very expensive

Modular, open architectures

- Linux;
- Dell PCs

Customization is straightforward
We all learn differently

• Multiple intelligences
  • Linguistic, Mathematical, Kinesthetic
• Motivations/interests
• Learning Styles
  • Visual, aural, playful, deliberate
• Depends on subject/domain
• Research in practice
  • Scientific Learning
  • CAST/Universal Design for Learning
  • K12, Inc.
  • All Kinds of Minds
  • Renzulli Learning
• Talents
  • “Giftedness” is fluid
• Aptitudes
• Different paces
  • Fast, medium, slow
• Ongoing neuroscience research
  • fMRI scans
Practical implications

• Autonomous
• Self-sustaining funding
• Not beholden by the old metrics
  • Seat time ➔ Mastery/Performance-based
  • Student: teacher ratio
  • Teacher certification
• Human resources pipeline and professional development
• Broadband/wireless infrastructure
• Portal/Based on usage and what works
• Treatment and use of data
Expensive failure results when disruption is framed in technological rather than business model terms.
Conflicting mandates in the way we must teach

vs.

The way students must learn

Interdependencies in the teaching infrastructure

Need for customization for differences in how we learn

Temporal

Lateral

Physical

Hierarchical

Copyright Clayton M. Christensen
Historically, most schools have “crammed” computer-based learning into the blue space.

Core curriculum

Path taken by most schools, foundations and education software companies

Different measure of performance

Non-consumers or non-consuming occasions

Performance

Time

Copyright Clayton M. Christensen
School boards have been moving “up-market” to focus limited resources in the “new” trajectory of improvement.
Perfect opportunity to implement online learning disruptively
The substitution of one thing for another always follows an S-curve pattern.
What are public schools doing?

- 46 states have some form of online learning initiative
- 27 states have supplemental state-led programs
  - FLVS, Idaho Digital Learning Academy, MVU
  - At least 7 have 10K+ enrollments
- Districts increasingly getting into the game
  - Serving nonconsumers: drop-out recovery, credit recovery, advanced courses, home-schoolers

Copyright Innosight Institute, Inc.
When launching disruptions, autonomy is key

*Organizational model* in which product is used

*Product architecture*: What are the components, and which ones interface with others?

Change the specifications for *how components must fit together*

Improve performance of each *component*
Transforming the content model

Value-adding process businesses

Facilitated-network businesses

• Manufacturing
• Food services
• Medical procedures
• Instruction
• Textbooks; education software today

• Telecomm
• Insurance
• EBay
• D-Life
• Education software tomorrow

Copyright Clayton M. Christensen
The instructional materials business historically has been a value-adding process business.
Student-centric software will be a facilitated-network business
Assessment in today’s monolithic system

Deliver content to students → Testing & assessment → Progress to next grade, subject, or body of material

Receive results

Copyright Clayton M. Christensen
How should assessment work?

Deliver content to students

Testing & assessment

Receive real-time interactive feedback

Progress to next grade, subject, or body of material

Copyright Clayton M. Christensen
Why do we need to innovate?

When education is not delivered in an intrinsically motivating way, prosperity is an enemy to education
A case study of successful innovation in education: The Florida Virtual School

• Start small
  • Break the mold grant for $200K

• What should it look like?
  • Unconstrained by old assumptions; what can we do with this new medium? What is true in this world?
  • Experiment and learn from failure

• Puzzle: who will want to use this?
Key policies emerge

• Autonomous organization
  – Established in 2000 as independent educational entity
  – New value proposition
  – Freedom to create its rules and procedures and enter into agreements with providers, hold patents, etc. as need be to fulfill its mission

• Funding
  – Initially a line-item allocation
  – In 2003, self-sustaining model established
    • FL funding formula
    • Seat time ➔ Mastery
FLVS growth