



Technology-based Business Transformation

ESD.57 – Fall 2007

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Society

Business

Technology

Class Project

Organize into groups, of 3, 2 or 1 (2 or 3 preferred).

Each group will select an industry with which they are familiar, identify a major new technology that can significantly transform a businesses within that industry, and put together a plan for how to transform such a business, including technical and market strategies, organization and culture.

*By **Monday, October 15** please submit 1 – 2 page draft overview of project, which we will review and discuss in class.*

We will discuss each paper in turn in the October 18 class, so we can all benefit from the overall discussion.

By October 18 – Submit 1 -2 page

- Analysis
- Creativity
- Design
- Development
- Holistic thinking
- . . .

Class Overview

- Technology-based innovation and business survival
- Formulating a market strategy around a new, disruptive, complex technology
- Executing a multi-faceted strategy in the marketplace
- Organizational and cultural Issues
- Class project presentation and discussion

Disruptive Innovation

... *become the Disruptor rather than the Disruptee*



The Internet - mid '90's



How do you decide that it is now time to begin formulating a disruptive, technology-based strategy

Key Market Factors

- How advanced is the technology?
- What is the marketplace saying about it?
- What are competitors doing?
- How are your clients reacting?

Formulating an Internet-based Strategy

- How advanced is the technology?
 - The Internet and Web were breaking out of the research community into the “early adopter” general marketplace
- What is the marketplace saying about it?
 - The marketplace started paying more and more attention, especially after the Netscape IPO in August, 1995
- What are competitors doing?
 - Major competition was arising, both existing companies – e.g., Sun, later Microsoft, and new companies – e.g., Netscape and many new “dot coms”
- How are your clients reacting?
 - Clients were beginning to experiment with the Web – both putting up web sites, front ends to their existing systems, and developing brand new applications, ...

Formulating a Disruptive, Technology-based Strategy

- Organizational Capabilities
- Identifying new markets
- Finding new customers
- IBM's Internet strategy - organizational issues

Organizational Capabilities

Text removed due to copyright restrictions.

Quote from book below about how most managers in big companies can see disruptive change coming; they just assume that if everyone in the company is well-suited to their position, then the company will be, too - but this is not always true.

Meeting the Challenge of Disruptive Change
– *Clay Christensen and Michael Raynor*

Framework for Organizational Capabilities

What can this company do?

■ Resources

- Tangible: people, equipment, technologies, cash
- Less tangible: product designs, information, brands,
- relationships with suppliers, distributors and customers

■ Processes

- Patterns of interaction, coordination, communication, decision making
- Designed to help employees perform tasks in a consistent way, time after time
- Often get in the way when applied to very different, new tasks

■ Values – beyond ethical connotations

- Standards by which employees set priorities for ideas for new products, attractiveness of orders, importance of customers, . . .
- Embody strategic directions and business model of company
- Important so that employees can make the proper independent decisions, especially in large, complex, global companies

Framework for Organizational Capabilities

Different Capabilities Important at Different Stages

■ Resources

- Most important in early stages of business or new initiative
- Especially talented people
- Most adaptable to change

■ Processes

- Increase in importance as business grows
- Well defined processes are indispensable to get beyond start-up or research stage
- Not nearly as flexible to changes

■ Values – beyond ethical connotations

- Key ingredients in the culture of a company
- Critical as business continues to grow, and becomes more global and distributed
- Least accommodating of changes

The challenge of disruptive innovations for larger companies

The downside of entrenched processes, values and culture

Text removed due to copyright restrictions.
Quote from book below about how small start-ups are more capable of pursuing emerging growth markets and embracing or initiating disruptive change.

Meeting the Challenge of Disruptive Change
– Clay Christensen and Michael Raynor

Creating Capabilities to Cope with Disruptive Innovations

■ New internal capabilities

- Separate team dedicated to new initiative
- Most appropriate when new challenges require new processes
- Usually needed to improve, cross-company interactions, time-to-market, flexibility, . . .

■ Spinout organization

- Separate business model with different financial measurements
- Often used for new, small but important, innovative opportunities
- Applicable when disruptive innovation requires different cost structures

■ Acquisitions

- Effective way to quickly bring new capabilities into a company
- Products, talents, customer base – integrate into parent company
- Processes, values, brand – leave as stand-alone organization

Disruptive Innovations and New Markets

Text removed due to copyright restrictions.

Quote from book below; figuring out what customers are really trying to accomplish, and what needs have been historically poorly addressed, is how to get a disruptive foothold.

The Innovator's Solution Chapter 4
– *Clay Christensen and Michael Raynor*

Disruptive Innovations and New Markets

- “Classic” market segmentation for new products
 - Product type, price point, demographics, . . .
 - Most appropriate for incremental improvements, sustaining innovations
 - Frequently fail for new, disruptive innovations
- Discovering new markets for new, disruptive innovations
 - Find new tasks that customers would like to get done and are difficult to do for a variety of reasons – complexity, costs, . . .
 - Look for and identify such new, disruptive “foothold” opportunities for disruptive innovations
 - Create new market and differentiated new offering that address it

Why is it so difficult to aim new innovations at new markets?

■ Fear of focus

- Easier to position new products against existing products from competitors
- Focus implies spelling out what new product is and *is not* aimed at
- Reluctance not to support features in competitors' products

■ Demand for quantification of opportunity

- Senior management typically demands to know size of market before funding new product
- Easier to quantify existing opportunities covered by existing products
- Much more difficult to quantify opportunities in new markets

■ Channels, advertising, customer communications

- Easier to work with existing channels and existing customers along existing frameworks for products and market segments
- New markets often require new ways of organizing channels and overall customers interactions
- New markets require lots of attention to “brand” and branding strategy

What kinds of customers will provide the most solid foundations for future growth?

Text removed due to copyright restrictions.

Quote from the book below advising managers to try to "easily delight" customers and create a situation in which the customers not only need the product, but become valued by one's business partners.

The Innovator's Solution Chapter 4 *– Clay Christensen and Michael Raynor*

Target new, disruptive innovation to compete against *Nonconsumption*

- *The target customers are trying to just get a job done, but because they lack money or skill, a simple inexpensive solution has been beyond their skill.*
- *They will compare the disruptive products to having nothing at all. As a result, they will be delighted to buy it even though it may not be as good as other products available at higher prices and requiring deeper expertise.*
- *The technology that enables the disruption might be quite sophisticated, but disruptors deploy it to make the purchase and use simple, convenient and foolproof. This enables people with less money and training to begin consuming*
- *The disruptive innovation creates a whole new value network. The new consumers typically purchase the product through new channels and use the product in new venues.*

What makes competing against *nonconsumption* so hard?

Threats versus Opportunities

- Threats elicit far more intense and energetic responses than opportunities
 - Opportunity generally does not get people's attention, especially when business is doing well
 - Threats make the point that company could be imperiled if disruptive innovation succeeds
 - Threats are needed to get needed resource commitments
- Threats generally cause companies to focus on protecting their customers and their current business
 - Be there with new innovations to protect current customers from being won over by competitors
 - Companies thus miss new *nonconsumption* growth opportunities being targetted by competitors with disruptive innovation
 - It usually does not work and ends up causing company to miss new market opportunity because innovation takes root with new *nonconsumption* customers

How to get commitment and flexibility?

Threats versus Opportunities

- Frame disruption as a threat within resource allocation process in order to garner needed resources
- Frame disruption as an opportunity in the strategy formulation, venture-building building process
- Set up different organization to go after new markets made possible by disruptive innovation

Formulating a Technology-based Strategy

Key Organizational Factors

- What are your organization's capabilities or "core competencies" to deal with this emerging technology?
- How well does the new technology fit with existing "legacy" products, services and installed base?
- How well does the new technology and related products and services fit with overall organization?
- Does your company have "brand permission" to go into this space naturally, or will it take a major marketing campaign to try to reposition the brand?

Formulating the IBM Internet-based Strategy

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 - The Internet and Web were becoming an integral part of the next generation IT infrastructure requiring systems, software and services

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- Fit with legacy products, services and installed base
 - Just about all existing products, services and installations were “web enabled” so they can easily integrate into an Internet infrastructure

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- Fit with organization and culture
 - New “dot com” were much faster moving in the marketplace than existing companies and seemed to play by different rules that they were inventing as they went along
- Brand permission and market acceptance
 - There were lots of discussions that we were entering a “new economy” in which only “born to the web” companies could play and survive and existing businesses were destined to fade away

e-business = Web + IT

Industrial Strength

Database Transactions
Scalability Systems Mgmt
Availability
Security

IT

Web



Standards

SET
TCP/IP HTML SSL
HTTP Browsers Java
Web Servers GUIs

A Culture of Open Standards



The Internet, Web and e-business...



Key factor for success in e-business strategy

Balance between disruptive and sustaining innovations

- Leverage organization's skills and talent ...
 - but embrace new market realities: time-to-market, ...
- Leverage products, installed base, customer relationships ...
 - but adapt to new market requirements: standards, ...
- Leverage your brand and history ...
 - but abandon qualities that have become outmoded
- Leverage every possible strength of the organization ...
 - but make sure you are in harmony with the forces of the marketplace



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