Organizational Concepts for Entrepreneurial Technology Companies - the cathedral or the bazaar?

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“…every strategic inflection point [is] characterized by a ‘10X’ change …”

“There’s wind and then there is a typhoon, there are waves and then there’s a tsunami”

- Andy Grove
Visible Signs: Wealth Creation

First 10 years of PC

First few years on Internet
Visible Signs: Corporate Tech Spending Continues to Rise


Note: Information technology spending includes purchases of information processing and related equipment (including office, computing, and accounting machinery), computers and peripheral equipment, communication equipment, instruments, and photocopy and related equipment.

Source: U.S. Department of Commerce.
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Priced as of 4/22/98, 3/17/99
Visible Signs: Social Change

Years to reach 50M users:
- Radio = 38
- TV = 13
- Cable = 10
- Internet = 5

Source: Morgan Stanley.
Even with lower click-through / response rates, Net advertising costs much less on a per-response basis!

Source: Direct Marketing Association, Morgan Stanley, KPCB analysis.
Behind the Scenes: Changes the Cost of Serving Customers

- Net transactions cost far less than through traditional channels
- Investment for a commercial bank to reach 10M potential customers
  - Bricks-and-Mortar: $900M
  - The Net: $1M

Transaction Costs (Banking)

Source: Booz Allen Hamilton.
Behind the Scenes: Revolutionizing the way companies interact with customers

- New customer acquisition
  - 80% of Dell’s small business Web customers never purchased from Dell before

- New channels to the customer
  - 70% of Internet users plan to make travel plans and purchases on the Web

- Increased availability to customers
  - 40% of AOL’s merchant online sales took place between the hours of 10 P.M. and 10 A.M.

- Building an online customer base
  - Amazon.com has 6.2M records — mailing addresses, e-mail addresses, credit card numbers — of customers who have made purchases on their site

Source: Company reports.
Behind the Scenes:
Brand Building is Changing

• Amazon vs. Barnes & Noble
• Yahoo vs. Mickey Mouse
• SportsLine vs. ESPN
• e-Trade vs. Merrill Lynch
• C|Net vs. CNBC
• CD Now vs. Tower Records
Behind the Scenes: Internal Operations are Changing

- Procurement: GE purchases $1B in supplies over the Internet in 1997

- Customer Service: Cisco reports customer service productivity has improved 200-300% from using the Internet

- Logistics: FedEx reports that PC and Web interfaces are used by 950K customers to track 12M packages annually

Savings

- $500-700M (3 yrs.)
- $360M (annually)
- 6 Million calls per year

Source: Company reports.
• Qwest changing the rules on backbone fiber capacity
• Level 3 investing $10B in an all IP network
• DWDM growth causing dramatic changes in available capacity
• Voice over IP projects proliferate at Lucent, Nortel, Cisco
And at the macro level....
The New Economy

- Conventional wisdom: American dream over. “I’m OK, but my kids…”
- 40% of GDP growth from tech
- Silicon Valley is symbol: <3% unemployed, high wages, every segment moving up
- Silicon Valley is state of mind: it’s everywhere, for everyone...
The New Economy

Old versus New economy

- a skill
- managers
- labor v. mgt
- bus v. environ
- security
- monopolies
- job preservation
- wages
- plant, equipment

- life long learning
- entrepreneurs
- teams
- encourage growth
- risk taking
- competition
- job creation
- ownership, options
- intellectual property
The New Economy

Old versus New economy

status quo
standardization
top-down
hierarchical
regulation
zero sum
sues
standing still

speed, change
custom, choice
distributed
networked
pub/private partners
win win
invests
moving ahead
What goals are we designing the organizational form for?
The “Environment”

- Change as a “process”
- A new Competitiveness - Adam Smith II
- Technology: “driver” or “tool”
- People
- Whose Rules?
- Static vs. Dynamic - Creation of new markets
- Amplification of Events & Time Compression
- A “winner take all” economy
Pace of Change

• Diseconomies of scale
• Diseconomies of process / hierarchy
• Timeliness of information disbursement
• The role of standards
Success Factors - Old & New

- People vs. Organization
- Process vs. Instinct
- Questioning vs. Hierarchy
- Leverage vs. Entrenchment
- Managing Risk vs. Risk avoidance
- Paranoia & Persistence vs. History
- Role of Trial vs. Consistency
- Best of breed Offerings
A detailed look at the factors....
Internal Factors

• People: Building the “balanced” team
• Culture
• Technostructure & Infostructure
• Engineering Methodology
• Organized Chaos: Execution vs. innovation.
• Pull vs. Push
• About Customers & Marketing
• Planning & process
People

- Top 5% - “winner take all”
- Instinct & Vision
- Personality mixes
- Role of the “Flakes”
- Leading vs. managing
Culture

• Setting the goals
• Managed Conflict
• Persistence & iteration
• Tolerating mistakes & rewarding failure
• Sense of urgency
• Paranoia
• Success & Complacency
• Specialization and complexity of technology
• Decision-making: top down or bottom up?
• The role of the “fringe” employee.
• Nuances as Pitfalls
• Horizontal and vertical communication & cooperation.
Engineering Methodology

- Evolvability
- Specialization
- Experimentation
- Change isolation
Organized Chaos: The Shepherd or the Sargent?

- The Flakes vs. Engineering vs. Marketing
- Experimentation
- Execution
- Budgets, Schedules, Tasks vs Project Stage
Push vs. Pull

- Products
- Brands
- People
- Leverage
• Listening to the customer
• Participants in Design / Experimentation
• Meeting vs. Teaching Requirements
• Discovering “Applications”
• Growth Patterns: the “stairstep”
• Perception & Reality; the Halo effect
• Momentum
• Process vs. Instinct
• Risk Balancing & Burn Balancing
• Risk Balancing of Projects
• Planning & Variability
“The early movers are the only companies that have the potential to affect the structure of the industry and to define how the game is played by others.”

-Andy Grove
Case Study: Open Source
The traditional development model reflects the “cathedral-building” model...

• Follow a single approach and vision
• Optimize for performance
• Release only bug-free products
• Products and technologies are developed in isolation
• Examples: IBM System/360, MSFT Windows platform, Intel Pentium, AT&T network
The new development model is evolving to the “bazaar” model...

- Optimize for evolvability
- Adopt new approaches and agendas regularly (“plan to throw it away”)
- Delegate/buy/outsource everything you can
- Be open to the point of promiscuity
- Release early, and often
- Products and technologies have to exist in a dynamic community
- Examples: Linux, Apache, Sendmail, Excite, Microsoft (the company), QWEST/Williams networks
Weather Forecast

• Rate of change will accelerate - life will be more complex, more busy...
• Innovation, opportunities & entrepreneurship will thrive
• Fun & fortunes will be in abundance
• Adaptability, agility & momentum will be the key to success!
“As long as we maintain the practices that have us made us what we are today, there is no limit to the longevity of this situation”

-F.E. Terman, Vice President, Stanford University
Comments?

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