
The Sigmoid Curve
Part III

Wednesday, December 6, 1995

Wednesday February 24, 1999

Wednesday November 17, 2004

The Sigmoid Curve

- ◆ Implications for:
 - ◆ Industry (Biotech vs Pharma);
 - ◆ Development Professionals
 - ◆ and Project Managers

-Dan Maher, 9/95, 2/99, and 11/04

What is the Sigmoid Curve?

- ◆ “The sigmoid curve is the s-shaped curve that has intrigued people since time began. It is the story of life itself....”

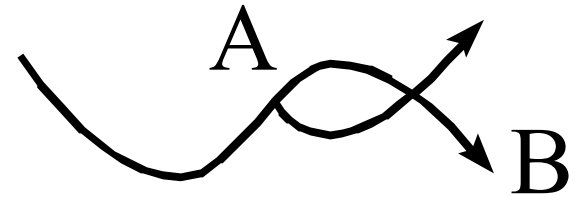
- ◆ Sigmoid Curve



Adapted from C. Handy, Where are you on the Sigmoid Curve? (Directors & Boards, Fall '94)

The Point to Make a Change

- ◆ The right place to start that second curve is at point A where there is the time, as well as the resources and the energy.....
- ◆ “The secret to constant growth is to start a new sigmoid curve before the first one peters out.”



The Sigmoid Curve

- ◆ “What is true of organizations is true of individuals and relationships.”



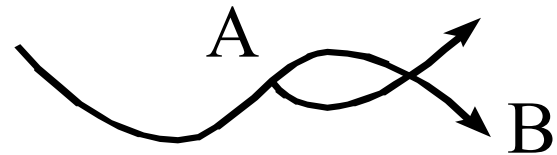
- ◆ “Wise are they who start a new curve before the first one peters out, because that is the way to build a new future.”
- ◆ Leaders drive the vision at point A, and drive change before B occurs

Personal, Professional, Organizational

- ◆ “A good career/life is probably a succession of second curves, started before the first curve fades.” Lives and priorities change as one grows.”
- ◆ If you snooze you lose.....

The Uncertain Period

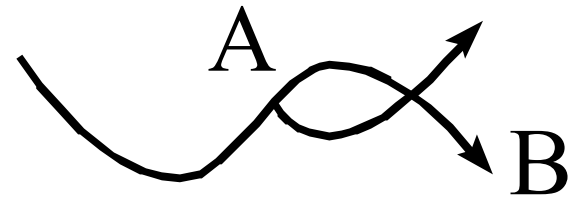
- ◆ “Many individuals, institutions and even whole societies, are in that (transition) period between point A & B. It is a time of great confusion, uncertainty and fear.”



Professional Implications

- ◆ “...the real energy for change comes only when you are looking disaster in the face, at point B on the curve....”

- ◆ “Consolidation”



Fragmentation is next...

Drug Industry Consolidation

Acquiring Company	Acquired Co.	Value (\$MM)
Sandoz	Ciba-Geigy	\$27,000
Glaxo	Burroughs Wellcome	\$14,900
AHP Corp.	Americar	\$9,700
HMR	MMD	\$7,200
Merck	Medco	\$6,000
Hoffmann-LaRoche	Syntex	\$5,300
Lilly	PCS	\$4,000
Baxter	Grace W.R.	\$3,800
Sandoz	Cerber	\$3,700
SmithKline	Sterling	\$2,925
RPR	Fisons	\$2,600
SmithKline	DPS	\$2,300
Ciba-Geigy	Chiron	\$2,100
Alco	Nobel Industries	\$2,100
Hoffmann-LaRoche	Genentech	\$2,014
J&J	Cordis	\$1,800
Sandoz	Sterling	\$1,680

“After over fifteen years of consolidation, the pharmaceutical industry may have reached a 'steady state', or even be facing future fragmentation.”

—Dr Jonathan de Pass, CEO of [Evaluate](#)

**Trends in Drug Sales
(\$ Billions)**

	2000	2001	2002	2007	AAGR % 2002-2007
Ethical drugs (U.S.)	85.8	95.8	102.6	146.8	7.4
Generic Drugs (U.S.)	47.4	52.2	54.3	90.5	10.8
OTC Drugs (U.S.)	37.7	48.5	57.8	108.4	13.4
Domestic Sales (U.S.)	170.9	196.5	214.7	345.7	10.0
International sales	161.1	185.0	203.5	318.0	9.3
Worldwide Sales	332.0	381.5	418.2	663.7	9.7

“Industry consolidation from 1988 to 2003 increased the market share of the top 10 pharmaceutical companies from 26 per cent to 47 per cent.”

-Dr Jonathan de Pass, CEO of [Evaluate](#)

So far.....half correct...

The Prediction

- ◆ Early next century there will be a handful of LARGE pharmaceutical companies left in the world, and biotech will no longer exist as we've come to know it.....

Biotech Vs Pharma, '94 Revenue

152 BioTech
firms:

\$ -1.3 billion

Top 12
Pharma:

\$ +16.4 billion

Source: BIOTECHNOLOGY May '95

Biotech vs. big pharma growth

Virtually across the board, big biotech companies have superior projected 5-year EPS growth rates compared to big pharma. Mcap \$B (A) Source: ThomsonFN

Biotech		
Company	11/5 Mcap	5-yr growth (A)
Amgen (AMGN)	\$77.2	20%
Biogen Idec (BIIB)	\$20.4	20%
Chiron (CHIR)	\$6.1	13%
Elan (ELN)	\$10.9	15%
Genentech (DNA)	\$53.8	29%
Genzyme (GENZ)	\$12.7	16%
Gilead (GILD)	\$16.1	21%
MedImmune (MEDI)	\$6.8	24%
Serono (SWX:SEO; SRA)	\$0.2	15%
Big Pharma		
Abbott (ABT)	\$69.3	12%
AstraZeneca (LSE:AZN; AZN)	\$72.7	10%
Bayer (FSE:BAYG; BAY)	\$22.1	10%
Bristol-Myers (BMY)	\$46.5	1%
Eli Lilly (LLY)	\$65.2	13%
GlaxoSmithKline (LSE:GSK; GSK)	\$126.9	7%
J&J (JNJ)	\$175.6	12%
Merck (MRK)	\$58.2	3%
Novartis (SWX:NOVN; NVS)	\$123.2	12%
Pfizer (PFE)	\$217.4	12%
sanofi-aventis (Euronext:SAN; SNY)	\$57.3	11%
Schering (SHR)	\$12.4	9%
Schering-Plough (SGP)	\$27.1	21%
Wyeth (WYE)	\$54.0	10%

Biotech vs Pharma

*So, what about Project
Management as a career?*

The future of Project Management (our careers...)

- ◆ Job changes occur often; stability will erode to where we will be “consultants”
 - ◆ Clinical will most often drive PM career paths in most companies.....traditional pharma structure and practice will dictate advancement (or lack thereof).....
 - ◆ JOAT and MON will build in value; experience will be rewarded; frequent job changes will be less of a handicap
 - ◆ The division of traditional (CMC) PM vs Clinical PM will disappear-to be effective you need both skill sets
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“Project Management”

For the most part we continue to evolve as a profession, but with a split in belief of what is important.....the “Leader vs Manager” debate will continue to drive the evolution of our profession....

The future of Project Management (our careers...)

- ◆ Development expertise will exclusively reside within big pharma while research organizations will be mostly biotech “boutiques” or “feeders” a.k.a. R&D
 - ◆ “Managing uncertainty” in R&D project management will dictate more reliance on the empowerment/performance of teams than “outstanding science”
 - ◆ Impact of IQ vs the lack of an EQ equalizer; “the lack of an EQ makes smart people stupid”
 - ◆ Process and Content management more critical than ever...
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“Program Leadership”

The future of Project Management (our careers...)

- ◆ Team Leadership a true art and science...
 - ◆ Contract (outsourcing) management will be a defining skill....“virtual team” a reality!
 - ◆ Technology push will complicate the development process; timelines and resources (FTE’s, time and money) increasingly pressured....beyond today
 - ◆ To deliver on time and on budget will separate the leaders from the followers
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“Program Leadership”

- ◆ What do the companies that post positions in project management focus on? What are the trends?

PM Pharma Postings, 2000-2004

- ◆ 136 Job Postings total:
 - Requirement or mention of Ph.D. preferred = 27 (20%, vs 27% in DIA survey)
 - Requirement or mention of M.B.A. preferred = 33 (24%, vs 16% in DIA survey)
 - Requirement or mention of PMP preferred = 13 (10%, vs 21% certified in DIA survey)
 - ◆ 8 = DNA, 2 = Amgen, 2 = Chiron
 - Those that used the word “leadership” in job responsibilities = 33 (24%)
 - Those that referenced job as “support of team leader” = 15 (11%)

2004 DIA PM Survey

CONCLUSIONS

- Companies will be looking for a more balanced skill set (PM and R & D technical), but unknown how we will get there
 - Jury is out of certification & relevance of PMBOK Methodologies
 - PM skills will be gained from non-certificate training or on-the-job training
- Scheduling, tracking and meeting management takes up most of our time
- PMs are seen as having primary responsibility for monitoring & managing against the budget, whereas PL held accountable for project outcome
- Activities most highly valued are tracking and team management, however these are playing less of a role in our career advancement
- Soft skills most important driver for PM career advancement
- Industry appears to be moving towards more project-based orgs. mainly due to more effective management of projects
- PM is a satisfying career with much oppty. for career advancement
- Companies will better understand the value of PM and role will expand

PM is "Project Coordinator"

- PTL roles and responsibilities
 - Project Executive
 - Leads project
 - Directs overall strategic and tactical planning, execution and control
 - Conducts all outside relationships and communication
- PTL competencies
 - Business acumen
 - Drug development and commercialization expertise
 - Leadership
 - General management expertise
 - Project management expertise
- Relationship of PM to PTL
 - Takes overall direction from PTL or senior PM
 - Makes recommendations within scope of responsibilities
 - May manage routine business independently
 - May act as agent for PTL or senior PM

DIA 2004, PM Track

Successful Projects Require Both Leadership & Management

to be Provided Through One or More Persons

Balancing the
Roles of the
PM and PL

Project Leader

Communicator-project goals, progress against goals, and results
Updates and reassurance to stakeholders, oversight committees & partners as appropriate

- Solicit & maintain support – represent project internally and externally

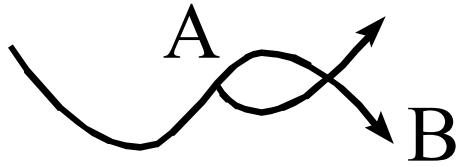
- Lead for strategy and project integration externally and internally
 - Oversight committees
 - Team members
 - Functional heads
 - Internal and external stakeholders
- Lead quality decision-making
 - Accountable for quality of decisions
 - Insures functional integration and alignment into Development plan that maximizes project success
 - Holds team members and functional heads accountable for planning and execution of functional deliverables.

Project Manager

- Own overall project plan
 - Create overall project plan and timeline, integrate functional plans and deliverables.
 - Maintain accurate budget and schedule, identify gaps that would result in missed project performance metrics
 - Ensure functional plan on-time delivery and execution
- Manage project processes
 - Project Planning/Tracking
 - Budget planning and performance
 - » Planning and Tracking
 - » Interfacing with Finance
 - Team effectiveness
 - » Meeting Facilitation
 - » Team Communication/ Manage Follow-up
 - » Gap planning
 - Surface gaps and insure remediation
- Manage support interfaces
 - Insure integration of publication, patent and external request committees

My thoughts regarding the next five...

- ◆ “Project Management” should be replaced by “Program Leadership” titles
- ◆ We should develop our leadership abilities further to compete successfully with the “dual” role currently established by the major biotech companies
- ◆ Established “IQ” credentials are critical as always (M.B.A., M.S., Ph.D., M.D.), but demonstrated “EQ” ability (leadership soft skills) is key in order to compete for top management positions going forward
- ◆ The certification concept, may, in principle, “box” us in to a supporting role, thus preventing full growth into significant positions



The bottom line.....the same

- ◆ Increase your value by moves at A
 - ◆ Take more risk, diversify, learn (keep watchful)
- ◆ When internal moves at A run dry consider external moves (carefully...)
 - ◆ “don’t let adverse facts ruin a good decision”
- ◆ “**Program Leadership**” is still hot!
 - ◆ Good Generalists will be rate-limiting
- ◆ Medicine (Pharma) will fundamentally change, again, and so then will our employers and customers.....

Carpe diem!

