



Choosing the Right Partner: Using Quantitative and Qualitative Assessment Tools To Optimize Corporate Partnering

Bill Kridel, Managing Director, Ferghana Partners

Matt Symonds, Senior Associate, Ferghana Partners

October 2006

Workshop Agenda

- Ferghana Overview
- Why Do We Do These Analyses?
- A Case Study



Ferghana Overview

Overview of Ferghana Partners

Ferghana Partners is a leading specialist investment banking group delivering high quality, senior level advice to the Healthcare and Chemicals Sectors

- Broad range of investment banking advisory services
- Excellent investment banking capabilities plus “Content Strong” approach (Sector, Clinical, Technology and Science Expertise) = Better outcomes for the client
- 15 professionals in London, New York, Boston and Adelaide
- Excellent track record - 29 transactions completed since January 2004
 - \$3 billion in M&A
 - \$200 million in financings
 - \$1.5 billion in partnering...

“Content Strong” Approach – Unique Positioning for Ferghana Partners

Ferghana Partners is uniquely positioned to deliver superior deal outcomes for clients by combining its “Content Strong” insights with excellent transaction execution

“Content Strong” insights through:

- Excellent industry knowledge, experience and contacts
- Deep scientific knowledge through in-house team and external contacts/network

Outstanding contact network:

- Small, medium and large companies in..
- Europe, North America and Japan through...
- Direct visits and conference sponsorship/attendance





Proprietary databases:

- Companies
- Transactions
- Company Strategy [development plans and corporate objectives]

Supported by Specialized Analytical Tools and Creative Deal-making

Corporate Partnering (Inward and Outward)

Over \$1.5 billion since January 2004

 <p>Biolex Alliance for the manufacturing and Development of Biopharmaceuticals, using the Lex System® with Centocor</p> 	 <p>Vernalis' North American Partnering of Frova®, an Anti-Migraine Drug, to Endo Pharmaceuticals</p> 	 <p>Shire's Global Partnering Of Troxatyl®, an Anti-Cancer Agent, to SGX</p> 	 <p>Acusphere's European Partnering of Cardiovascular Imaging Agent to Nycomed</p> 
 <p>Shire's Partnering of its Japan Rights of Fosrenol® to Bayer Yakuhiin Ltd</p> 	 <p>Schering AG's Partnering of Rights to Refludan® Outside of North America to Pharmion</p> 	 <p>Atrix Laboratories' Partnering of Japan Rights of its Prostate Cancer Drug to Sosei Co., Ltd</p> 	 <p>Regeneron's Global Alliance of an Ophthalmology Product with Alcon</p> 
 <p>Neurochem's Global Partnering of Alzheimer's Drug to Lundbeck A/S</p> 	 <p>Atrix Laboratories' Partnering of Prostate Cancer Drug to MediGene AG</p> 	 <p>Osiris' Global Partnering of Mesenchymal Stem Cells to Novartis</p> 	 <p>Shire's Partnering of its Japan Rights of Agrylin® to Kirin</p> 



Why Do We Do These Analyses?

Why Do We Do These Analyses?

Corporate partnering is more active than ever

Because of 'excess demand', more corporate partnering transactions are becoming competitive: pharma, biotech, private equity-funded companies are all in the mix

Shareholder disappointment and inadequate operating results can occur because:

- The wrong deal has been created in terms of value and structure
- The wrong partner was chosen from multiple suitors

Robust modelling and analysis, both qualitative and quantitative, can lead to:

- **Confident negotiation posture**
- **Optimized deal economics (value and structure)**
- **Selection of a counterparty for the greatest commercial potential**

The Big Pharma Backdrop – Losing Revenues

~ \$30 Billion Of Therapeutic Drugs Sales Lost Patent Protection In 2002-3 ⁽¹⁾

~ \$50 Billion Of Current Therapeutic Drug Sales Lose Patent Protection From 2004-2007 ⁽¹⁾

(1) Data Monitor, Orange Book

The Big Pharma Backdrop – Innovation Gap

New Big Pharma NDAs Are Down Over Last 10 Years, Despite:

- **Big Pharma R&D Spending Up Almost 50% Over Last 10 Years⁽¹⁾**
- **In the face of a consolidating industry**

Drugs Discovered In-House Decreased From 80% To 40% Since 1970⁽²⁾

Twice As Many Blockbusters Licensed-In Vs. Internally Discovered⁽²⁾

(1) *Burrill & Company*

(2) *Research and Markets, McKinsey & Co*

Pharma has Led a Corporate Partnering Explosion

- # of Biotech – Pharma Collaborations Up 6-10 Fold Last 10 years ⁽¹⁾
- # of Biotech - Pharma Collaborations Almost Double 1999 Levels⁽²⁾
- **Novartis – 86 Biotech Deals in 2005** ⁽³⁾
- Biotech, Diagnostics and Tools companies have joined in this feeding frenzy

Too Much Demand and Too Much Money from Counterparties to Take a Casual Approach to Creating Excellent Transactions and to Finding the Right Partner...

Hence, Ferghana Enters the Scene as Advisor

(1) *Ferghana Estimates*

(2) *Recombinant Capital*

(3) *Novartis*

Key Emerging Trends – Deal Creativity Continues to Rise

If You Have What They Need, Don't Be Afraid to Ask For What You Want

- Pharma is truly receptive to real needs of innovators

Deal Creativity Never Higher – Not For Late Stage Deals

- Co-promotion
- Loans
- 50-50 development partnerships
- Opt-Ins: Opt-outs
- Incentive based transfer price/royalties
- Sales force hiring, training and financing
- Equity option ratchets
- Manufacturing rights

A dependable modeling methodology will allow you to ask for what you want and evaluate competing offers with confidence



Case Study: Quantitative and Qualitative Assessments of Competing Partnering Term Sheets

Case Study Overview: Project CINDERELLA

Actual Deal With Certain Parameters Changed To Protect Identity of the Participants

Corporate Partnering Deal With a Variety of “Bells And Whistles”

Client approached Ferghana with several interested parties in competition for product

- Multiple and complex term sheets requiring sophisticated modeling to evaluate
- Necessity to create an “ideal” term sheet as benchmark (normally the output of the analytical phase of an assignment and given to counterparties for negotiation)

Counterparties also relying on probability-based modeling

- Respective models were never shown to other side

Initial NPV Modeling Process

Client And Ferghana Develop Product Profile With Key Product Assumptions:

- Clinical, regulatory and commercial risk elements
- Determine realistic market potential
 - Patient driven model
 - Market research a big plus: market share, pricing, feature/benefits
- Understand development plan, cost and timing
- Understand manufacturing plans, costs and timing

Client And FPG Discuss Client Goals From Deal

- Financial (cash inflow, equity support, cost sharing, long-term revenue stream)
- Strategic (technology validation, marketing, infrastructure build-up, franchise development)

These Key Elements Enable Initial Modeling To Commence and Goals to Be Established and Quantified

CINDERELLA Product Profile

Late Stage Phase III Respiratory Product

- Significant safety and efficacy data exists – larger than usual Phase II package
- Clinical and regulatory risk is mild
- Launch in first market expected end of 2009
- Race against competing products in development

Realistic Billion Dollar Revenue Potential

Drug/Device Combination

Licensors provides finished product supply

Licensee may be able to supply key intermediate

NPV Model Methodology

Probability Based Cash Flow Model

- Multiple possible outcomes
 - Failure and success

Discounting Primarily Driven by Probabilities, Not NPV

- Discount Rate is Cost of Capital

Primary Goal of Model is to Calculate Licensor/Licensee Share of NPV

- Overall NPV share for licensor and licensee depend on the
 - Remaining Clinical Development risk
 - Probability of Regulatory Approvals
 - Future Commercial Outcomes

Key Is To Be Comfortable With Patient Population Dynamics And the Relevant Product Profile for the Goals

Key Decisions to Establish Base Model

Number Of Scenarios/Cases To Be Modeled

- Usually 4 or 5
 - At least 3 commercial cases [sales levels]
 - At least 1 complete failure case

Probability For Each Case Using Decision Tree Methodology

Base Case Patient Model

- Aggressive, but realistic
- Should be something any licensee can fathom and believe in

Probabilities Often Used for Various Project/Product Scenarios

No Set Rules And Highly Variable

<u>Project Status</u>	<u>Probability of Approval</u>
NDA filed	75-90%
In PIII	50-75%
PII Complete	40-75%
PI Complete	20-30%

For Products Already Approved, Deciding Probabilities for Level of Sales Success Is More Art Than Science.

CINDERELLA: Competing Term Sheets with Multiple Economic Features

Four competing termsheets consisted of multiple economic elements that presented modelling challenges:

- Upfront payments
- Development milestones contingent on:
 - Approved product profile
 - Launch timelines
 - Capital improvements
- Sales Milestones
- Reimbursement of prior and ongoing R&D expenses
- Future R&D Cost Sharing
- Loan for Manufacturing Plant Expansions
- Manufacturing Margins
- Licensor Supply of Intermediate
- Profit Sharing vs. Royalty
 - Differs by Geography
 - Royalty basis (net sales vs. gross profits)
- Co-promotion and sales force cost reimbursement, training and deployment
- Equity investment
 - Staged and contingent on development milestones



View Model

Evaluating NPV Share Split Between Licensor and Licensee

Highly Variable, Primarily Dependent On:

- Perceived remaining risk (regulatory, clinical, commercial)
- Desperation and financial/operation resources to do a deal

Product Status	NPV Share Range For Licensor
Approved	40-60%
NDA Filed	40-50%
In PIII	35-45%
Completed PII	30-40%
Completed PI	20-30%

Quantitative Assessment of Competing Term Sheets

	'Ideal' Termsheet		Company A	Company B	Company C	Company D
Client NPV Share	51%		44%	50%	49%	45%
BioWorld Dollars	\$600M		\$750M	\$710M	\$750M	\$300M

NPV analysis suggested that two interested parties (Company B and C) had economically equivalent offers

Results highlight need for NPV approach, as Total Deal Value can be misleading

Perhaps other qualitative attributes could tip the balance between Company B and C?

Qualitative Assessment Tool

Assessment to include qualitative aspects of deal

Methodology

- Select differentiating Attributes [16] of deals/companies
- Assign weighting based on “importance to Client”
 - Normal weight of 1, range 0.25 (less important) to 2 (very important)
- Rank each Counterparty on each Attribute (1-5 score, Delphi method: 2 members of Client team, 2 Ferghana team members)
- Apply weightings to arrive at aggregate score for each counterparty

Qualitative Attribute Weighting

Over-weighted Attributes

Attribute	Weight
<i>Allocation of Sales Roles</i>	2.00
<i>Intermediate Supplier</i>	2.00
<i>Royalties</i>	1.50
<i>Loan</i>	1.50
<i>Equalization payment</i>	1.50
<i>Absence of product conflict</i>	1.50
<i>Prestige factor</i>	1.50
<i>Co-promote partner's product</i>	1.25

Normal or under-weighted Attributes

Attribute	Weight
<i>Upfront Payment</i>	1.00
<i>Development Milestones</i>	1.00
<i>Sales Milestones</i>	1.00
<i>Development costs</i>	1.00
<i>Global marketing muscle</i>	1.00
<i>Equity investment</i>	0.50
<i>Regulatory Expertise</i>	0.50
<i>Device Expertise</i>	0.50

Attribute Scoring (5 high to 1 low)

Over-weighted Attributes

	A	B	C	D
<i>Sales Role</i>	3	3	3	3
<i>Intermediate Supplier</i>	1	3	5	1
<i>Royalties</i>	3	5	3	1
<i>Loan</i>	3	4	1	2
<i>R&D Reimbursement</i>	2	5	1	1
<i>Absence of product conflict</i>	4	4	2	5
<i>Prestige factor</i>	3	5	4	1
<i>Co-promote partner's product</i>	4	4.5	4	1
Winner	0	5	1	1

Normal or under-weighted Attributes

	A	B	C	D
<i>Upfront Payment</i>	3	3	4	2
<i>Development Milestones</i>	4	3	5	2
<i>Sales Milestones</i>	4.5	5	4	1
<i>Development costs</i>	3	2	4	2
<i>Global Marketing Muscle</i>	3	5	4	2
<i>Equity investment</i>	2	2	5	1
<i>Regulatory Expertise</i>	2	3	5	2
<i>Device Expertise</i>	4	3	5	1
Winner	0	2	6	0

Overall Assessment Score

	Company A	Company B	Company C	Company D
Total Score	57.0	74.125	66.0	35.25

Minimum possible score – 19.25

Maximum possible score – 96.25

Conclusion: Company B appears to be a more suitable partner due to its higher qualitative score

End Result of Project CINDERELLA

Quantitative NPV-based analysis highlighted 2 clear finalists (Companies B and C)

But it was **qualitative** attributes, rather than straight NPV calculations, that tipped the balance to...

Company B as the finalist, with whom the client chose to negotiate and execute final agreements

THANK YOU

Contacts

Bill Kridel, Managing Director

kridel@ferghanapartners.com

London Office

Moreau House
116 Brompton Road
London SW3 1JJ
t : +44 20 7808 0300

Boston Office

124 Mount Auburn
Street
Suite 200N
Cambridge
MA 02138
t : +1 617 520 6650

Matt Symonds, Senior Associate

symonds@ferghanapartners.com

New York Office

420 Lexington Avenue
Suite 2626
New York
NY 10170
t : +1 212 986 7900

Australia Office

PO Box 3124
Melbourne Street Post Office
North Adelaide
South Australia 5006
t : +61 8 8267 5675

[**www.ferghanapartners.com**](http://www.ferghanapartners.com)
