Assessing the Valuation of New Ventures

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Intro and own experience at Venture Valuation
Introduction to Valuation
Coffee break
How to Assess a Company Prior to Valuation
Overview of different valuation methods
Q&A
Own experience

- 1998: Master Thesis at University St. Gallen
- Goal: to do something useful
- Topic: Valuation of high growth companies
- Contact to industry (Novartis Venture Fund)
- Feeling for market requirements, demand

=> Start Venture Valuation in 1999
History

Spring 1999: Foundation Venture Valuation, contract from Novartis Venture Fund
2003: Swiss Life Sciences Database
2005: Development of partneringONE®
2007: Launch of biotechgate.com
2008: Subsidiary in India for Biotechgate
2012: Over 250 company valuation
2013: Partnership with Life Sciences Nation, Boston and Lingmed in China
      Open office in Singapore for Asia
2015: Open office in Ireland
2017: Over 500 valuations
**Mission**

Independent assessment and valuation of technology-driven companies/products in growth industries

**Information services / Life Sciences Databases**

Biotechgate

**Offices**

Zurich (HQ); UK, Ireland (15)
India, Singapore, China (14)
USA, Canada (3)

Representatives/partners around the world
Scientists and finance experts
# Valuation Service

<table>
<thead>
<tr>
<th>Track Record</th>
<th>~500 valued companies (world-wide)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients</td>
<td>Investors, companies, government and academic institutions</td>
</tr>
<tr>
<td>Expertise</td>
<td>Finance experts work hand in hand with experienced industry specialists (pharma, biotechnology, medical technology and high-technology)</td>
</tr>
</tbody>
</table>
| Products     | - Company Valuation Reports  
                - Product Valuation Reports  
                - Portfolio Valuation |
| Approach     | Workshop with company on site |
Biotechgate

1) Company Directory / Licensing opportunities
2) Investors Database
3) Licensing Deal Database (deal terms)

4) White label company directory for Associations and Government agencies

- Global Life Sciences and Biotech Database to map clusters.
- Today: 45’000 company profiles, 60‘000 products, 19‘000 licensing opportunities; 3’500 investors; 2’000 licensing deal terms
Partners Biotechgate
Overview

- Own experience at Venture Valuation
- Introduction to Valuation

Coffee break

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Why Valuation

- Value before investment (pre-money value): EUR 1,5 m
- Investment: EUR 0,5 m
- Value after investment (post-money value): EUR 2,0 m
- Share Investor: 0,5 m / 2 m = 25%
Why Valuation

- Out-licensing of a phase II product
- Deal terms: up-front CHF 1 m
  milestones CHF 20 m
  royalties 7%

- rNPV of product ?
- rNPV of deal ?

⇒ rNPV of product: CHF 30 m
⇒ rNPV of deal: CHF 10 m
⇒ Splitt Biotech / Pharma: 33% / 66%

rNPV: risk adjusted net present value
When do a Valuation?

- Think ahead
- Be prepared for negotiations
- Know the fundamentals
- What assumptions have been used
- Out-licensing or financing round?

=> On going exercise
Valuation of what?

1. Valuation of a product
   ⇒ Licensing deal
   ⇒ Strategic development decision

2. Valuation of a company
   ⇒ Investment / Financing round
   ⇒ Merger / Acquisition
   ⇒ Measure success of company development
Definitions

• **Value**: implies the inherent worth of a specific thing

• **Price**: depending on the market (supply / demand); whatever somebody is prepared to pay

“Price is what you pay. Value is what you get.“

By Warren Buffett
Rational on Valuation

Why assessment and valuation of high growth companies?

- Industry lacks transparency
- Valuation is key issue in development
- Very difficult (high uncertainties)
- High potential for investors
- Long investment cycle
- Traditional valuation methods unsuited
- Complex technology and IP situations
Mind-set of Investors

- Take high risk, but expect high returns
- Pressure from investors
- Compete in capital market

<table>
<thead>
<tr>
<th>Probability of failure</th>
<th>Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Bond</td>
<td>0%</td>
</tr>
<tr>
<td>Bonds</td>
<td>5%</td>
</tr>
<tr>
<td>Blue Chip Company</td>
<td>10%</td>
</tr>
<tr>
<td>Internet company (Nasdaq)</td>
<td>50%</td>
</tr>
<tr>
<td>Biotechnology Company</td>
<td>80%</td>
</tr>
</tbody>
</table>
Exit possibilities

- Investor look for exit possibilities to realize return
- Sale of shares → very difficult
- Exit via different channels possible:
  - Merger & Acquisition (M&A)
  - Management Buy-out (MBO)
  - Initial Public Offering (IPO)
VC Investment Process

Deal flow

Initial screening

Access to projects

Decision making and negotiations

Due Diligence / Assessment

Valuation

Negotiation

Monitoring

Reporting and support

Divesting and generating return

Exit
1. What is risk?
2. How can we capture risk?
   => Assessment of the company
3. How can risk be quantified?
   => rating of factors
From risk to assessment

1. Understand the fundamentals
2. Assumptions drive the valuation
   => assessment is key

Assessment:
1. Management
2. Market
3. Technology
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Assessment

Why is assessment important?

- Valuation is all about assumptions
- Understand the risk
- Quantify the risk
- Different perception of company
Valuation Framework

Risk
- Qualitative Analysis (Softfactors)
- Management
- Market
- Science & Technology

Return
- Risk Analysis
- Quantitative Analysis
- Company Stage

Valuation Framework Components:
- Discount rate
- Risk free base rate
- Systematic risk premium
- Liquidity Premium
- Value Added
- Cash Flow Adjustment

Company Stage:
- Seed
- Start-up
- First Stage
- Expansion Stage
- IPO

5 year forecast business plan:

<table>
<thead>
<tr>
<th>Year</th>
<th>GNP 1</th>
<th>GNP 2</th>
<th>GNP 3</th>
<th>GNP 4</th>
<th>GNP 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>100%</td>
<td>200%</td>
<td>300%</td>
<td>400%</td>
<td>500%</td>
</tr>
<tr>
<td>12</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>18</td>
<td>200%</td>
<td>200%</td>
<td>200%</td>
<td>200%</td>
<td>200%</td>
</tr>
<tr>
<td>24</td>
<td>300%</td>
<td>300%</td>
<td>300%</td>
<td>300%</td>
<td>300%</td>
</tr>
<tr>
<td>30</td>
<td>400%</td>
<td>400%</td>
<td>400%</td>
<td>400%</td>
<td>400%</td>
</tr>
<tr>
<td>36</td>
<td>500%</td>
<td>500%</td>
<td>500%</td>
<td>500%</td>
<td>500%</td>
</tr>
</tbody>
</table>

- Science & Technology
- Qualitative Analysis (Softfactors)
- Risk Analysis
- Quantitative Analysis

Risk
- Return
Management

1. Completeness skills
2. Track record / experience
3. Motivation / Incentive structure
4. Organization
5. Emotional intelligence / social competence
6. Composition and involvement of boards

1: none / very poor
2: low / poor
3: insufficient
4: sufficient
5: good
6: high
Market Environment

Industry Structure: (Five forces by Michael Porter)
1. Threat of new Entry
2. Rivalry among existing competitors
3. Pressure from substitute products
4. Dependencies on customers
5. Dependencies on suppliers
6. Current and future market potential
7. Customers
8. Political / legal dependencies
9. Cost and Sales estimations
1. Intellectual Property (IP)
2. Unique selling proposition
3. Alliances/partnerships
4. Management of future discoveries
5. Time to market

Scale:
1. none / very poor
2. low / poor
3. insufficient
4. sufficient
5. good
6. high
### Rating - Assessment

<table>
<thead>
<tr>
<th>Company stage</th>
<th>Biotech Company</th>
<th>Discount rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Seed Stage</td>
<td>leads</td>
<td>70% to 90%</td>
</tr>
<tr>
<td>2 Start-up Stage</td>
<td>pre-clinical</td>
<td>50% to 70%</td>
</tr>
<tr>
<td>3 First Stage</td>
<td>phase I</td>
<td>40% to 60%</td>
</tr>
<tr>
<td>4 Second Stage</td>
<td>phase II</td>
<td>35% to 50%</td>
</tr>
<tr>
<td>5 Later Stage</td>
<td>phase III</td>
<td>25% to 40%</td>
</tr>
</tbody>
</table>
Valuation Process

Contact & mandate

Business Plan (BP) to VV

Workshop

Writing the report

Valuation Report

Preparation:
- Review of BP
- Research
- Questions

Feedback from:
- partners
- clients
- suppliers
- board members

Information sources:
- research reports
- internal database
- external database
- etc.

Process lasts one month
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High growth Companies

- Often no revenues / earnings
- Value = potential of the future and associated risk
- Influence factors:
  • Stage of company
  • Management
  • Market
  • Science and Technology
Used Methods

- Discounted Cash Flow Method (DCF)
- Market Comparable Method
- Comparable Deals Method
- Venture Capital / Exit based Method
- Risk Adjusted Net Present Value (rNPV) Method
- Option pricing Method
- …

=> there is no “the right method”
=> combination of different methods
DCF – Discounted CF

<table>
<thead>
<tr>
<th>Year</th>
<th>Free Cash Flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-60</td>
</tr>
<tr>
<td>2</td>
<td>-30</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>180</td>
</tr>
<tr>
<td>6+</td>
<td>300</td>
</tr>
</tbody>
</table>

Terminal Value

Present Value
Comparable Method

Company Value: EUR 10 m
50 employees

Ratio

- Revenues
- Earnings
- EBITDA
- Employees
- Industry specific factors

10 employees

⇒ Company Value:

EUR 2 m*

* (10/50) x 10 m = 2 m
VC method

Present Value

Exit Value

Present today

Future

year 1 → Exit year
Valuation Report

Venture Valuation

Sampletec

SUMMARY

The pre-money value range for SAMPLETEC is 10.0m to EUR 24.7m. The average pre-money value is EUR 18.0m when calculated with a discount rate of 3%. Using the DCF, market comparables, and venture capital methods.

<table>
<thead>
<tr>
<th>Value Range</th>
<th>Value Spectrum</th>
</tr>
</thead>
<tbody>
<tr>
<td>In EUR (m)</td>
<td>Weighting</td>
</tr>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Discounted CF</td>
<td>45%</td>
</tr>
<tr>
<td>Market Comp.</td>
<td>20%</td>
</tr>
<tr>
<td>Venture Capital</td>
<td>45%</td>
</tr>
<tr>
<td>Average</td>
<td>18.759</td>
</tr>
</tbody>
</table>

VENTURE VALUATION

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Thank you for listening!

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