Best-in-Class
Pharma Strategy
Crafting

Data
Concepts
Methods
Tools

Smart Pharma Consulting Expertise
March 2018
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
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<td>3. Strategy Crafting Process</td>
<td>p.21</td>
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<td>Introduction to Strategy</td>
<td>p.5</td>
<td>4. Strategic Planning Process</td>
<td>p.36</td>
</tr>
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<td>2. Pharma Top Performers</td>
<td>p.12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The synergies created by our triple expertise enable us to carry out unique and high quality Market Research Studies to raise market insights and make better decisions

Smart Pharma Consulting unique positioning

- Our market research expertise allows us to take a critical look at third party studies
- As we carry out our own studies, we ensure a direct quality control on the data we collect which is key to develop robust fact-based analyses and recommendations

- Our teaching method, based on educative challenge\(^1\), is acclaimed by executives\(^2\) and students\(^3\) since 1992
- We are aware of pharma executive training and consulting needs (i.e. business knowledge and analytics, solution development, ideas structuring, etc.)

The quality of our recommendations is supported by:

- Our strong academic background
- Our past experience in pharma companies and in several of the best consulting firms in the world
- The reliability of the data that we collect
- The robustness of our analyses to draw up solutions
- Our innovative viewpoints, methods, etc. (several of them having been published in peer-reviewed journals)
- Our ability to explain and convince with clear, precise and concise messages

Smart Pharma Consulting is officially registered as a training organization by the French government since 2002

\(^1\) Challenge of participants (e.g. analytical rigor, relevance of recommendations, quality of the oral presentations, etc.)
\(^2\) ~935 executives trained
\(^3\) More than 1,830 students trained

Source: Smart Pharma Consulting
Smart Pharma Consulting publishes regularly well-documented reports, including thoughtful analyses to help pharma companies make fact-based strategic decisions.

Selected market studies relative to corporate strategy:

- **How to create a superior Pharma Corporate Reputation?**
  - 15 Years in Search of Innovative Solutions
  - The "Pharma Corporate Reputation Booster™"
  - A practical approach to strengthen your competitive position
  - Position Paper
  - August 2016

- **Best-in-Class Pharma BD&L**
  - Concepts
  - Methods
  - Tools
  - From Theory to Practice - Key Guidelines
  - November 2017

- **The French Pharma Market 2016 – 2022 Prospects**
  - Strategic Implications for Pharma Companies
  - Business Report
  - September 2017

- **Drug Value & Market Access Optimization**
  - From Drug Cost to Payer Valuation
  - "How to get the best value?"
  - Report
  - June 2016

- **Global Biosimilar Drugs Market Outlooks**
  - Specific focus on the French market
  - 2017 forecasts
  - February 2015

Source: Smart Pharma Consulting
Introduction to Strategy

Strategy sets long term direction and scope of a company to achieve a competitive advantage through proper capability building and resources allocation

**Strategy definition**

- Strategy is a **consistent, unifying** and **integrative assembly** of decisions defined to **achieve** the **ambition** and the corresponding **objectives set** by a company, in the **most effective, efficient** and **less risky manner**

- It attempts to achieve the **long-term sustainable advantages** the company can maintain in its businesses, by responding to the present and future **opportunities** and **threats** in the market segments it covers, through the optimal management of its **strengths** and **weaknesses**

- It is concerned with the definition of **optimal capabilities** and **resources** configuration to **take advantage**, better than competition, of the **evolving customers needs and wants**

- It **covers** the **responsibilities** and **actions** required from **all hierarchical levels** (corporate, business, operational) in the firm

- It **defines** the nature of the **economic** and **non-economic contributions** the company intends to make to its stakeholders

“A successful strategy meets or, better, exceeds customers, employees and shareholders expectations to raise their respective preference for the company, its products and associated services”

Source: Smart Pharma Consulting, adapted after Strategor 2016
Corporate strategy selects the strategic segments, business strategy creates a competitive advantage and operational strategy defines the appropriate organization.

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**Multi-level Strategies**

1. **Corporate strategy**
   - In which strategic segment should we be in?

2. **Business strategy**
   - How should we compete in the selected segments?

3. **Operational strategy**
   - Which organizational configuration do we need?

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**Corporate strategy** defines the purpose and the scope in which a company competes or should compete and how value will be added to its different businesses.

**Business** or **competitive strategy** is concerned with how to compete successfully within particular strategic segments (e.g. original brands, generics, OTCs, medical device, etc.).

**Strategic segments** correspond to companies within an industry which are subject to the same critical success factors which are addressed by a given business unit of the company.

**Operational strategy** determines the activities, capabilities, processes, structure\(^1\), culture and resources needed to effectively support the corporate- and business-level strategies.

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Source: Smart Pharma Consulting, adapted after G. Johnson et al., 2008

\(^1\) Including the headcounts and the organigramme
The key drivers and limiters of the global pharmaceutical market by the end of 2023, as well as their probable impact on sales trends, are well identified.

**Global pharmaceutical market drivers and limiters (2017 – 2023)**

<table>
<thead>
<tr>
<th>DRIVER</th>
<th>LIMITER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Population increase and ageing</td>
<td>1. Decreasing R&amp;D productivity of pharma companies re. breakthrough innovations</td>
</tr>
<tr>
<td>2. Better access to medicines in emerging markets (e.g. BRICS(^1), Mexico, Turkey, etc.) as a result of an increasing GDP per capita</td>
<td>2. Increasing barriers to market access and price pressure from payers (governments, HMOs, patients, etc.), exacerbated by the economic environment</td>
</tr>
<tr>
<td>3. Strong development of generics market (access to a larger number of people, especially in low-income countries)</td>
<td>3. Increasing price sensitivity of customers for non-reimbursed drugs</td>
</tr>
<tr>
<td>4. Strong demand from patients / PAGs(^2) for new drugs more effective and better tolerated</td>
<td>4. Intensification of competition from generic and biosimilar drugs</td>
</tr>
</tbody>
</table>

Source: Smart Pharma Consulting analyses

\(^1\) Brazil, Russia, China, South Africa – \(^2\) Patient advocacy groups
Sales of EU5 should grow slowly by 2023 due to stringent cost containment measures leading to a three-point decrease of their weight in the global pharmaceutical market.

Global pharmaceutical market size and growth (2017 – 2023)

<table>
<thead>
<tr>
<th>Sales in USD B</th>
<th>2017</th>
<th>2023</th>
<th>CAGR 2017-2023</th>
<th>Growth in absolute value 2017-2023</th>
<th>Contribution to growth 2017-2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1,161</td>
<td>1,556</td>
<td>+5%</td>
<td>USD 395 B</td>
<td></td>
</tr>
<tr>
<td>Rest of the world</td>
<td>224</td>
<td>60</td>
<td>+7%</td>
<td>USD 113 B</td>
<td>+29%</td>
</tr>
<tr>
<td>BRI¹</td>
<td>91</td>
<td>90</td>
<td>+7%</td>
<td>USD 30 B</td>
<td>+8%</td>
</tr>
<tr>
<td>Japan</td>
<td>124</td>
<td>176</td>
<td>+1%</td>
<td>USD 6 B</td>
<td>+1%</td>
</tr>
<tr>
<td>China</td>
<td>157</td>
<td>177</td>
<td>+6%</td>
<td>USD 52 B</td>
<td>+13%</td>
</tr>
<tr>
<td>EU5²</td>
<td>505</td>
<td>679</td>
<td>+2%</td>
<td>USD 20 B</td>
<td>+5%</td>
</tr>
<tr>
<td>North America³</td>
<td>60</td>
<td>224</td>
<td>+5%</td>
<td>USD 174 B</td>
<td>+44%</td>
</tr>
</tbody>
</table>

Sources: Outlook for Global Medicines through 2021, Quintiles IMS (December 2016) – Smart Pharma Consulting estimates

¹ Brazil, Russia, India – ² France, Germany, Italy, Spain, UK – ³ USA and Canada
By 2023, the French Pharma market is expected to step back from the 5\textsuperscript{th} to the 6\textsuperscript{th} place at the global level and to keep its 2\textsuperscript{nd} position after Germany in Europe

### Global pharmaceutical market ranking in value\(^1\) (2012 – 2017 – 2023)

<table>
<thead>
<tr>
<th>Rank</th>
<th>2012</th>
<th>2017</th>
<th>2023</th>
<th>CAGR 2017-2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USA</td>
<td>USA</td>
<td>USA</td>
<td>++</td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>China</td>
<td>China</td>
<td>+++</td>
</tr>
<tr>
<td>3</td>
<td>Japan</td>
<td>Japan</td>
<td>Japan</td>
<td>+</td>
</tr>
<tr>
<td>4</td>
<td>Germany</td>
<td>Germany</td>
<td>Germany</td>
<td>++</td>
</tr>
<tr>
<td>5</td>
<td>France</td>
<td>France</td>
<td>Brazil</td>
<td>++++</td>
</tr>
<tr>
<td>6</td>
<td>Italy</td>
<td>Brazil</td>
<td>France</td>
<td>+</td>
</tr>
<tr>
<td>7</td>
<td>Brazil</td>
<td>Italy</td>
<td>Italy</td>
<td>+</td>
</tr>
<tr>
<td>8</td>
<td>UK</td>
<td>UK</td>
<td>UK</td>
<td>+</td>
</tr>
<tr>
<td>9</td>
<td>Spain</td>
<td>Spain</td>
<td>India</td>
<td>+++</td>
</tr>
<tr>
<td>10</td>
<td>Canada</td>
<td>Canada</td>
<td>Spain</td>
<td>+</td>
</tr>
<tr>
<td>11</td>
<td>India</td>
<td>India</td>
<td>Canada</td>
<td>++</td>
</tr>
<tr>
<td>12</td>
<td>South Korea</td>
<td>Russia</td>
<td>South Korea</td>
<td>++</td>
</tr>
<tr>
<td>13</td>
<td>Australia</td>
<td>Australia</td>
<td>Australia</td>
<td>+</td>
</tr>
<tr>
<td>14</td>
<td>Russia</td>
<td>Russia</td>
<td>Australia</td>
<td>+++</td>
</tr>
<tr>
<td>15</td>
<td>Mexico</td>
<td>Mexico</td>
<td>Turkey</td>
<td>+++</td>
</tr>
<tr>
<td>16</td>
<td>Argentina</td>
<td>Turkey</td>
<td>Mexico</td>
<td>+++</td>
</tr>
<tr>
<td>17</td>
<td>Saudi Arabia</td>
<td>Poland</td>
<td>Argentina</td>
<td>+++</td>
</tr>
<tr>
<td>18</td>
<td>Poland</td>
<td>Saudi Arabia</td>
<td>Poland</td>
<td>+++</td>
</tr>
<tr>
<td>19</td>
<td>Switzerland</td>
<td>Argentina</td>
<td>Saudi Arabia</td>
<td>++</td>
</tr>
<tr>
<td>20</td>
<td>Switzerland</td>
<td>Switzerland</td>
<td>Switzerland</td>
<td>++</td>
</tr>
</tbody>
</table>

Sources: IQVIA Institute (March 2018) – Smart Pharma Consulting estimates

\(^1\) In 2017 USD, at constant exchange rate
1. Global Pharma Trends

The generics segment should become more important in value than non-biotech original drugs one in 2023 and contribute to 55% of the growth between 2017 and 2023.

Global pharmaceutical market growth by strategic segment (2017 – 2023)

Sales in USD B

- Total: +5%
- OTC: +3%
- Generics\(^1\): +8%
- Biotech originators\(^2\): +6%
- Non biotech originators: +2%

World economic growth – CAGR 2017-2023: +3%


\(^1\) Including branded and unbranded generics and biosimilars, excluding OTC
\(^2\) Excluding biosimilars, already included in the “Generics” segment
By 2023, the sales growth of pharma companies should be essentially driven by generics and biotech originators, but they should lose two points of profitability

Global pharmaceutical market growth by strategic segment (2017 – 2023)

- By 2023, the sales (incl. human drugs only for the non-OTC segments; medical devices and food supplements for the OTC segment) should reach USD 1,556 B and grow at a pace of +5% p.a.
- The average EBITDA of the Pharma industry should decrease from ~32% in 2017 to ~30% in 2023, mainly as a result of increasing price pressure
- The OTC segment appears to be the least attractive
- The biotech segment will remain attractive but biosimilar competition will ramp up

Sources: Outlook for Global Medicines through 2021, Quintiles IMS (December 2016) – Global OTC Drugs Market, Mordor Intelligence (August 2016) – Global economic prospects, World Bank (June 2017) – Smart Pharma Consulting estimates

1. Global Pharma Trends
The top 30 pharma companies based on prescription sales, counts 12 companies from the USA and 11 from Europe

Top 30 prescription pharma companies – Sales (2017)

1. Pfizer (US) 52.5
2. Novartis (CH) 49.1
3. Roche (CH) 44.2
4. Merck & Co (US) 40.1
5. Sanofi (FR) 39.6
6. GSK (UK) 38.9
7. J&J (US) 36.3
8. Bayer (DE) 28.7
9. AbbVie (US) 28.2
10. Gilead Sciences (US) 26.1
11. Eli Lilly (US) 22.9
12. Amgen (US) 22.8
13. AstraZeneca (UK) 22.5
14. Teva (IL) 22.4
15. BMS (US) 20.8
16. Boehringer Ingelheim (DE) 17.9
17. Novo Nordisk (DK) 16.9
18. Takeda (JP) 16.0
19. Allergan (IR) 15.9
20. Shire (IR) 15.2
21. Celgene (US) 13.0
22. Biogen (US) 12.3
23. Astellas (JP) 12.1
24. Mylan (US) 11.9
25. Daiichi Sankyo (JP) 8.8
26. Merck KGaA (DE) 7.9
27. Otsuka (JP) 7.2
28. CSL (AU) 6.9
29. Valeant Pharma. (CA) 6.1
30. Regeneron (US) 5.9

Note: panel of the 30 biggest pharma companies in terms of prescription sales in 2017 (excluding diagnostics, medical device, nutrition…)

Sources: Companies financial reports – Smart Pharma Consulting estimates

1 2016 data – 2 Fiscal year April 2016 - March 2017 – 3 Fiscal year July 2016 - June 2017

Best-in-class Pharma Strategy Crafting

March 2018
The 2017 average operating margin was higher for Big Pharma companies in comparison to Mid Pharma companies, with a similar dispersion profile.

Top 30 prescription pharma companies – EBITDA\(^1\) (2017)

**Big Pharma**

(Weighted average operating margin: 34%)

<table>
<thead>
<tr>
<th>Company</th>
<th>% of revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amgen</td>
<td>60%</td>
</tr>
<tr>
<td>Roche</td>
<td>52%</td>
</tr>
<tr>
<td>J&amp;J</td>
<td>43%</td>
</tr>
<tr>
<td>Pfizer</td>
<td>37%</td>
</tr>
<tr>
<td>AbbVie</td>
<td>37%</td>
</tr>
<tr>
<td>BMS</td>
<td>37%</td>
</tr>
<tr>
<td>Bayer</td>
<td>31%</td>
</tr>
<tr>
<td>Novartis</td>
<td>30%</td>
</tr>
<tr>
<td>AstraZeneca</td>
<td>30%</td>
</tr>
<tr>
<td>Merck &amp; Co</td>
<td>30%</td>
</tr>
<tr>
<td>Sanofi</td>
<td>30%</td>
</tr>
<tr>
<td>Teva</td>
<td>27%</td>
</tr>
<tr>
<td>GSK</td>
<td>25%</td>
</tr>
<tr>
<td>Eli Lilly</td>
<td>23%</td>
</tr>
</tbody>
</table>

**Mid Pharma**

(Weighted average operating margin: 32%)

<table>
<thead>
<tr>
<th>Company</th>
<th>% of revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valeant Pharma</td>
<td>61%</td>
</tr>
<tr>
<td>Celgene</td>
<td>53%</td>
</tr>
<tr>
<td>Biogen</td>
<td>52%</td>
</tr>
<tr>
<td>Novo Nordisk</td>
<td>47%</td>
</tr>
<tr>
<td>Regeneron</td>
<td>38%</td>
</tr>
<tr>
<td>Shire</td>
<td>31%</td>
</tr>
<tr>
<td>Merck KGA</td>
<td>31%</td>
</tr>
<tr>
<td>CSL</td>
<td>30%</td>
</tr>
<tr>
<td>Mylan</td>
<td>28%</td>
</tr>
<tr>
<td>Astellas</td>
<td>25%</td>
</tr>
<tr>
<td>Alergan</td>
<td>23%</td>
</tr>
<tr>
<td>Takeda</td>
<td>22%</td>
</tr>
<tr>
<td>Otsuka</td>
<td>22%</td>
</tr>
<tr>
<td>Boehringer Ingelheim</td>
<td>17%</td>
</tr>
<tr>
<td>Dalichi Sankyo</td>
<td>13%</td>
</tr>
</tbody>
</table>

Sources: Companies annual reports (2017 or 2016) – Smart Pharma Consulting analyses

1 Earnings before interest, taxes, amortization and depreciation – \(^2\) 2016 data – \(^3\) Fiscal year July 2016 - June 2017 – \(^4\) Fiscal year April 2016 - March 2017
In 2017, original Rx-bound drugs and vaccines was the main source of revenue for most Big and Mid Pharma companies

Top 30 prescription pharma companies – Strategic segments (2017)

Sources: Companies annual reports (2017 or 2016) – Smart Pharma Consulting analyses

1 2016 data – 2 Fiscal year April 2016 - March 2017 – 3 Fiscal year July 2016 - June 2017
Mid Pharma companies tend to be less geographically diversified, with most of them generating more than half of their revenues in a single region

Top 30 prescription pharma companies – Geographical distribution\(^1\) (2017)

<table>
<thead>
<tr>
<th>Company</th>
<th>1st geographical region</th>
<th>2nd geographical region</th>
<th>3rd geographical region</th>
<th>Other geographical regions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Big Pharma</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pfizer(^2)</td>
<td>50%</td>
<td>18%</td>
<td>13%</td>
<td>20%</td>
</tr>
<tr>
<td>Novartis</td>
<td>36%</td>
<td>34%</td>
<td>22%</td>
<td>8%</td>
</tr>
<tr>
<td>Roche</td>
<td>45%</td>
<td>26%</td>
<td>21%</td>
<td>9%</td>
</tr>
<tr>
<td>Merck &amp; Co(^2)</td>
<td>46%</td>
<td>28%</td>
<td>7%</td>
<td>19%</td>
</tr>
<tr>
<td>Sanofi</td>
<td>34%</td>
<td>27%</td>
<td>14%</td>
<td>24%</td>
</tr>
<tr>
<td>GSK</td>
<td>37%</td>
<td>26%</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>J&amp;J(^2)</td>
<td>60%</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bayer</td>
<td>38%</td>
<td>29%</td>
<td>22%</td>
<td>11%</td>
</tr>
<tr>
<td>Abbvie(^2)</td>
<td>62%</td>
<td>14%</td>
<td>6%</td>
<td>17%</td>
</tr>
<tr>
<td>Gilead Sciences</td>
<td>70%</td>
<td></td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Eli Lilly</td>
<td>57%</td>
<td>17%</td>
<td>12%</td>
<td>14%</td>
</tr>
<tr>
<td>Amgen</td>
<td>79%</td>
<td></td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>AstraZeneca</td>
<td>31%</td>
<td>30%</td>
<td>24%</td>
<td>15%</td>
</tr>
<tr>
<td>Teva</td>
<td>53%</td>
<td>27%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>BMS</td>
<td>55%</td>
<td>22%</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td><strong>Mid Pharma</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boehringer(^2)</td>
<td>41%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Novo Nordisk</td>
<td></td>
<td>32%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Takeda(^3)</td>
<td>38%</td>
<td>30%</td>
<td>16%</td>
<td>21%</td>
</tr>
<tr>
<td>Allergan</td>
<td></td>
<td>79%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shire</td>
<td></td>
<td>64%</td>
<td></td>
<td>36%</td>
</tr>
<tr>
<td>Celgene</td>
<td></td>
<td>64%</td>
<td></td>
<td>36%</td>
</tr>
<tr>
<td>Biogen</td>
<td></td>
<td>68%</td>
<td></td>
<td>32%</td>
</tr>
<tr>
<td>Astellas(^3)</td>
<td>37%</td>
<td>31%</td>
<td>25%</td>
<td>7%</td>
</tr>
<tr>
<td>Mylan</td>
<td>42%</td>
<td>34%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Daiichi Sankyo(^3)</td>
<td></td>
<td>63%</td>
<td>20%</td>
<td>8%</td>
</tr>
<tr>
<td>Merck KGaA</td>
<td>36%</td>
<td>23%</td>
<td>21%</td>
<td>20%</td>
</tr>
<tr>
<td>Otsuka</td>
<td></td>
<td>52%</td>
<td>26%</td>
<td>23%</td>
</tr>
<tr>
<td>CSL(^3)</td>
<td>57%</td>
<td>11%</td>
<td>10%</td>
<td>37%</td>
</tr>
<tr>
<td>Valeant(^2)</td>
<td>65%</td>
<td></td>
<td>10%</td>
<td>29%</td>
</tr>
<tr>
<td>Regeneron</td>
<td>60%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: Companies annual reports (2017) – Smart Pharma Consulting analyses

\(^1\) 1st & 2nd geographical regions include North America (including USA and Canada only), Europe and Japan depending on companies – \(^2\) 2016 data – \(^3\) Fiscal year April 2016 – March 2017 – \(^4\) Fiscal year July 2016 - June 2017
Big Pharma companies have spent three times more for R&D in absolute value than Mid Pharma companies and ~2 points more as a percentage of their revenues

**Top 30 prescription pharma companies – R&D expenditures (2017)**

### Big Pharma

<table>
<thead>
<tr>
<th>Company</th>
<th>R&amp;D expenditures as a % of revenue</th>
<th>Absolute value (USD M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMS</td>
<td>30.9%</td>
<td>6,411</td>
</tr>
<tr>
<td>AstraZeneca</td>
<td>25.6%</td>
<td>5,757</td>
</tr>
<tr>
<td>Merck &amp; Co</td>
<td>24.9%</td>
<td>9,982</td>
</tr>
<tr>
<td>Lilly</td>
<td>23.1%</td>
<td>5,282</td>
</tr>
<tr>
<td>Roche</td>
<td>22.3%</td>
<td>9,859</td>
</tr>
<tr>
<td>J&amp;J</td>
<td>20.9%</td>
<td>6,967</td>
</tr>
<tr>
<td>Novartis</td>
<td>18.3%</td>
<td>8,972</td>
</tr>
<tr>
<td>Abbvie</td>
<td>17.7%</td>
<td>4,982</td>
</tr>
<tr>
<td>Sanofi</td>
<td>15.6%</td>
<td>6,184</td>
</tr>
<tr>
<td>Amgen</td>
<td>15.2%</td>
<td>3,482</td>
</tr>
<tr>
<td>Pfizer</td>
<td>14.6%</td>
<td>7,657</td>
</tr>
<tr>
<td>Gilead</td>
<td>14.3%</td>
<td>3,734</td>
</tr>
<tr>
<td>Bayer</td>
<td>12.9%</td>
<td>5,090</td>
</tr>
<tr>
<td>GSK</td>
<td>12.8%</td>
<td>4,978</td>
</tr>
<tr>
<td>Teva</td>
<td>8.3%</td>
<td>1,848</td>
</tr>
</tbody>
</table>

**Weighted average**

- 18.1%*

**Total**

\[ \sum = 91,185 \]

### Mid Pharma

<table>
<thead>
<tr>
<th>Company</th>
<th>R&amp;D expenditures as a % of revenue</th>
<th>Absolute value (USD M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regeneron</td>
<td>35.3%</td>
<td>2,075</td>
</tr>
<tr>
<td>Celgene</td>
<td>24.3%</td>
<td>3,166</td>
</tr>
<tr>
<td>Merck KGaA</td>
<td>23.3%</td>
<td>1,844</td>
</tr>
<tr>
<td>Daiichi Sankyo²</td>
<td>22.4%</td>
<td>1,980</td>
</tr>
<tr>
<td>Boehringer¹</td>
<td>19.6%</td>
<td>3,517</td>
</tr>
<tr>
<td>Biogen</td>
<td>18.4%</td>
<td>2,254</td>
</tr>
<tr>
<td>Takeda²</td>
<td>18.0%</td>
<td>2,886</td>
</tr>
<tr>
<td>Astellas²</td>
<td>15.9%</td>
<td>1,923</td>
</tr>
<tr>
<td>Otsuka</td>
<td>14.2%</td>
<td>1,623</td>
</tr>
<tr>
<td>Allergan</td>
<td>13.2%</td>
<td>2,100</td>
</tr>
<tr>
<td>Novo Nordisk</td>
<td>12.5%</td>
<td>2,125</td>
</tr>
<tr>
<td>Shire</td>
<td>11.6%</td>
<td>1,763</td>
</tr>
<tr>
<td>CSL³</td>
<td>9.3%</td>
<td>645</td>
</tr>
<tr>
<td>Mylan</td>
<td>6.6%</td>
<td>783</td>
</tr>
<tr>
<td>Valeant</td>
<td>5.9%</td>
<td>361</td>
</tr>
</tbody>
</table>

**Weighted average**

- 16.3%*

**Total**

\[ \sum = 29,045 \]

*Weighted average

Sources: Companies annual reports (2017 or 2016) – Smart Pharma Consulting analyses

¹ 2016 data – ² Fiscal year April 2016 - March 2017 – ³ Fiscal year July 2016 - June 2017
Most of the recent M&A operations have been carried out to strengthen Big and Mid Pharma companies positions on their core strategic segments

**Top 30 prescription pharma companies – Major M&A operations (2015-2017)**

### Big Pharma

<table>
<thead>
<tr>
<th>Acquirer</th>
<th>Acquired (&gt; USD 2.0 B)</th>
<th>Strategic objectives</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pfizer</td>
<td>▪ Hospira (Generics / Biosimilars)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>▪ Medivation (Oncology)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Anacor (Anti-inflammatory)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Novartis</td>
<td>▪ Advanced Accelerator Applications (Oncology)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Sanofi</td>
<td>▪ Boehringer Ingelheim (Consumer healthcare business of the company)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>J&amp;J</td>
<td>▪ Actelion (Pulmonary arterial hypertension)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>AbbVie</td>
<td>▪ Pharmacys (Oncology)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Stemcentrx (Oncology)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Gilead Sciences</td>
<td>▪ Kite Pharma (Cancer immunotherapies)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>AstraZeneca</td>
<td>▪ Acerta Pharma (Cancer and autoimmune diseases)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ ZS Pharma (Cardiovascular and metabolic diseases)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Teva</td>
<td>▪ Actavis Generics (Generics business of Allergan)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Auspex Pharmaceuticals (CNS disorders)</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Rimsa (Latin America)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>BMS</td>
<td>▪ Cardioxyl (Cardiovascular)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>▪ IFM Therapeutics (Cancer immunotherapies)</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

### Mid Pharma

<table>
<thead>
<tr>
<th>Acquirer</th>
<th>Acquired (&gt; USD 2.0 B)</th>
<th>Strategic objectives</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Boehringer Ingelheim</td>
<td>▪ Merial (Animal health business of Sanofi)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Takeda</td>
<td>▪ Ariad Pharmaceuticals (Oncology)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Allergan</td>
<td>▪ Life Cell unit of Acelity (Aesthetics &amp; Regenerative)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>▪ Kythera Biopharmaceuticals (Aesthetics)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Shire</td>
<td>▪ Baxalta (Rare diseases)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>▪ Dyax Corp (Rare diseases)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>▪ NPS Pharmaceuticals (Rare diseases)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Celgene</td>
<td>▪ Receptos (Immune-inflammatory diseases)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Mylan</td>
<td>▪ Meda (OTC, Emerging markets such as China, Asia or MEA)</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Valeant Pharma</td>
<td>▪ Salix Pharmaceuticals (Gastrointestinal)</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Note: Diversification means entering new strategic segments/balancing minor segments – Strengthening means reinforcing major strategic segments – Expansion means geographical coverage

Sources: ThePharmaLetter – Companies’ press releases – Smart Pharma Consulting analyses
Concentration strategies use to generate higher profitability ratios, whereas diversification and geographical expansion strategies provide higher profit growth

Development strategy matrix: Principles

- Activities concentrated in the USA, EU5\(^1\) and Japan
- Portfolio mainly centers on the innovative branded ethical segment
  - High profitability
  - Low growth perspectives

- Strong presence, incl. in Latin America, Africa and Asia\(^2\)
- Portfolio mainly centered on the innovative branded ethical segment
  - Moderate profitability
  - High growth perspectives

- Activities concentrated in the USA, EU5\(^1\) and Japan
- Portfolio mainly centers on the innovative branded ethical segment
  - High profitability
  - Low growth perspectives

- Activities concentrated in the USA, EU5\(^1\) and Japan
- Portfolio mainly centers on the innovative branded ethical segment
  - Moderate profitability
  - High growth perspectives

- Activities concentrated in the USA, EU5\(^1\) and Japan
- Broad portfolio including: generics, OTCs, food supplements, medical devices, vaccines, services, etc.
  - Moderate profitability
  - Moderate growth perspectives

- Strong presence, incl. in Latin America, Africa and Asia\(^2\)
- Broad portfolio including: generics, OTCs, food supplements, medical devices, vaccines, services, etc.
  - Low profitability
  - High growth perspectives

Source: Smart Pharma Consulting analyses

\(^{1}\) France, Germany, Italy, Spain, UK – \(^{2}\) Including segments of the population with lower income and/or from rural areas
Even if there is no one-size-fits-all winning strategy, a “global healthcare” strategy seems to be a reasonable long-term default option for Big Pharma companies.

**Development strategy matrix: Features**

<table>
<thead>
<tr>
<th>Strategic development directions</th>
<th>Sales evolution*</th>
<th>Profitability evolution*</th>
<th>Profit evolution*</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local ethics</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>Strategy showing the highest return on investment</td>
</tr>
<tr>
<td>Global ethics</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>Diversification in new strategic segments should be carried out preferably through acquisitions to save time, take advantage of brand equity (especially in the OTC market), know-how, and access to clients</td>
</tr>
<tr>
<td>Local healthcare</td>
<td>+ +</td>
<td>-</td>
<td>+</td>
<td>Portfolio diversification is best implemented through the acquisition of global players (e.g. Pfizer and Hospira)</td>
</tr>
<tr>
<td>Global healthcare</td>
<td>+ + +</td>
<td>- -</td>
<td>+ + +</td>
<td>Geographical expansion implies an “aggressive” direct or indirect presence (through licensing-out deals)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Social “expansion” requires a tiered pricing policy or low-priced products to access low-income patients</td>
</tr>
</tbody>
</table>

* + + + Highly positive   ++ Moderately positive   + Slightly positive  - - - Highly negative  - - - Moderately negative  - Slightly negative

Source: Smart Pharma Consulting analyses
Big and Mid Pharma companies are mainly focused on the Rx branded segment but Big Pharma companies are more geographically diversified

**Pharma companies development strategy (2017)**

<table>
<thead>
<tr>
<th>Big Pharma</th>
<th>Mid Pharma</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic segments</strong></td>
<td><strong>Strategic segments</strong></td>
</tr>
<tr>
<td><strong>Rx branded Focused</strong></td>
<td><strong>Rx branded Focused</strong></td>
</tr>
<tr>
<td>BMS</td>
<td>Allergan</td>
</tr>
<tr>
<td>Lilly</td>
<td>Amgen</td>
</tr>
<tr>
<td>Gilead</td>
<td>Shire</td>
</tr>
<tr>
<td>Amgen</td>
<td>Celgene</td>
</tr>
<tr>
<td>AbbVie</td>
<td>Biogen</td>
</tr>
<tr>
<td>J&amp;J</td>
<td>Novo Nordisk</td>
</tr>
<tr>
<td>Teva</td>
<td>CSL</td>
</tr>
<tr>
<td><strong>Diversified</strong></td>
<td><strong>Diversified</strong></td>
</tr>
<tr>
<td>Roche</td>
<td>Boehringer</td>
</tr>
<tr>
<td>AstraZeneca</td>
<td>Astellas</td>
</tr>
<tr>
<td>Merck &amp; Co</td>
<td>Merck KGaA</td>
</tr>
<tr>
<td>Pfizer</td>
<td>Takeda</td>
</tr>
<tr>
<td>Novartis</td>
<td>Sanofi</td>
</tr>
<tr>
<td>GSK</td>
<td>Mylan</td>
</tr>
<tr>
<td><strong>Geographical coverage</strong></td>
<td><strong>Geographical coverage</strong></td>
</tr>
<tr>
<td>Focused</td>
<td>Focused</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Canada</td>
</tr>
<tr>
<td>Europe</td>
<td>China</td>
</tr>
<tr>
<td>USA</td>
<td>China</td>
</tr>
<tr>
<td>Geographically Focused</td>
<td>Diversified</td>
</tr>
<tr>
<td>&gt;50% of sales in a single geographical region (e.g. USA, Europe, Japan, etc.)</td>
<td>&gt;50% of sales in multiple geographical regions</td>
</tr>
</tbody>
</table>

**Note:**
- **Rx Branded focused**: Original Rx-bound drugs and vaccines ≥ 75% of total product sale
- **Geographically focused**: >50% of sales in a single geographical region (e.g. USA, Europe, Japan, etc.)

Sources: Companies annual reports (2017) – Smart Pharma Consulting analyses
This strategic process should help pharma companies translate their “Strategic Square” into the right strategy and tactics supported by the right organization.

Methodology: Smart strategic process

- **Purpose**: Why do we exit?
- **Vision**: What do we aspire to become?
- **Mission**: What do we do and for whom?
- **Values**: What do we believe in and how do we behave?
- **Objective**: What do we want to achieve?

- **Strategic model**: Where do we want to play and how are we going to play to win?
- **Organizational model**: What are the activities/capabilities, the processes, the structure and culture we need to put in place to execute the strategy?
- **Key tactics**: How are we going to execute the strategy?
- **Performance**: What have we quantitatively and qualitatively achieved and what are the gaps and why, if any?

---

1 Including the headcounts and the organigramme
2 Such as corporate reputation

Source: Smart Pharma Consulting

Best-in-class Pharma Strategy Crafting

March 2018
Four basic corporate strategies can be adopted by pharma companies to secure a long-term and profitable growth, in line with their shareholders expectations.

Corporate strategy crafting (1/2)

- The Development strategy matrix is a practical tool to select the most attractive sources of growth.
- Diversification is in general the riskiest option because the farthest from the company core competencies.
- However, playing in diverse strategic segments with different characteristics can enable to mitigate business risks.

### Strategic segments

<table>
<thead>
<tr>
<th>Existing</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market penetration</td>
<td>Product / Service development</td>
</tr>
<tr>
<td>Market consolidation</td>
<td></td>
</tr>
<tr>
<td>Market development</td>
<td>Diversification</td>
</tr>
</tbody>
</table>

- Increase market share on existing strategic segments by modifying existing products, developing, acquiring or in-licensing new products.
- Enter new geographical areas with existing product portfolio directly or through a partnership with distributors or licensees.
- Enter new strategic segments (e.g. OTCs, generics, biosimilars, e-health solutions, homecare services) in countries currently covered.
- Diversify by entering new strategic segments in countries not yet covered.

“The purpose of corporate strategy is to decide where to play and how to play to succeed”
The corporate strategy can be implemented by pharma companies organically or inorganically, through strategic partnerships, mergers or acquisitions¹

Corporate strategy crafting (2/2)

- Collaboration with a third party (e.g. pharma company and/or CSO²) to increase share of contacts and/or share of voice
- Co-marketing or co-promotion agreements to increase resources to market a product
- Acquisition of competitors to reduce or better manage competitive intensity

- Direct market entry by setting up its own subsidiary
- Indirect market entry by licensing-out its product portfolio to a third party or with a CSO
- Indirect market entry by acquiring a local player to take advantage of its resources and capabilities

- Entry on new strategic segments can be carried out through in-house R&D and/or through:
  - Horizontal integration (e.g. OTC, generics, homecare services)
  - Downward integration (e.g. distribution business)
  - Upward integration (e.g. toll manufacturing business)
  - Outsourcing to a CRO³
  - Etc.

- New strategic segments entry and new geographical coverage can be carried out organically or through acquisition, merger, joint-venture, in-licensing (e.g. with a pharma company) or subcontracting (e.g. with a pharma company, a CSO, a CRO) agreements

Source: Adapted by Smart Pharma Consulting from H. Ansoff

¹ See our position paper “Best-in-Class Pharma BD&L” available on our website –
² Contract sales organization – ³ Contract research organization
To craft a successful strategy, pharma companies must evaluate their business environment to identify where their competitive advantage will be the strongest.

**Business strategy crafting (1/3)**

- To create a successful business strategy, pharma companies should carefully evaluate the strategic segment landscape they play in by:
  
  **Customers**
  - Developing a detailed understanding of customer needs / wants
  - Segmenting and targeting customers
  - Identifying unique ways of creating superior value for customers

  **Competitors**
  - Analyzing competitors’ current strategies, their impact, and predicting how they might change in the future

  **Company**
  - Providing products and services fulfilling better than competition, tangible and intangible customers needs / wants
  - Finding strategic spaces or “blue oceans” that align the company’s capabilities with customer unmet needs and…
  - … raising barriers to prevent competitors to enter

---

Source: Adapted after C. Kim et R. Mauborgne 2005 - D.J. Collis, HBR April 2008 - Smart Pharma Consulting

1 Political/legal, Economic, socio-demographic and technological factors –

2 Including Suppliers, new entrants, substitutes, complements

"Don’t just give customers excellent services, make sure they realize how great is the service they get"
The business strategy must offer a value proposition that meets, better than competition, customers needs and wants, by mobilizing capabilities and resources.

**Business strategy crafting (2/3)**

**Business model**
- Mission
- Purpose
- Values
- Vision

**Capabilities**
- Tangible resources (physical and financial)
- Intangible resources (reputation – technology – people – culture)

**Support Functions** (regulatory – legal – HR – finance – IT)
- R & D
- Production
- Market access
- Medico-Marketing

**Strategic segments**
(e.g. Rx-bound brands, generics, OTCs, devices, etc.)

**Macro-environment**
- Other stakeholders forces

**Competitors**
- offerings

**Customers**
- needs

"Red Ocean" (highly competitive)
"Blue Ocean" (business opportunity)

**Affiliate capabilities**

**Strengths & Weaknesses**
(Competitive advantage)

**Opportunities & Threats**
(Attractiveness & Key success factors)

**Objectives & Strategic priorities**

---

Sources: Adapted by Smart Pharma Consulting from C. Kim et al. and from D.J. Collis, HBR April 2008

1 Political / legal, economic, socio-demographic and technological factors –
2 Including suppliers, new entrants, substitutes, complements
The strategic canvas can help identify strategic gaps which represent opportunities that are not being fully exploited by competition.
Business opportunities by strategic segment (e.g. original Rx-bound drugs, generics, OTCs, etc.) can be assessed through PEST analysis and the “5+1 forces framework”

**Business strategy – Attractiveness of strategic segments (1/3)**

- The four key macro-environmental drivers:
  - Political / Legal
  - Economy
  - Socio-demography
  - Technology

- The five key micro-environment drivers:
  - Suppliers
  - Customers
  - New entrants
  - Substitutes
  - Competitive rivalry

- … plus the “Complements” influence the attractiveness of each strategic segment and impact the success or the failure of pharma companies strategy

- These key drivers for change can be used to build scenarios of possible futures, especially by adopting the “what if” technique

Source: Adapted by Smart Pharma Consulting from M. Porter 2008
The “5+1 forces framework” is particularly helpful to identify the key stakeholders that will influence the long-term structure and profitability of strategic segments.

**Business strategy – Attractiveness of strategic segments (2/3)**

### Stakeholders

- **Rx-bound brands**
- **Generics**
- **OTCs**
- **Devices**
- **Homecare**

#### Drivers

- **Political / Legal drivers**
- **Economic drivers**
- **Technological drivers**
- **Socio-demographic drivers**

#### Threats and Opportunities

- **Threats**
  - New entrants (e.g. innovative products, “me-too” products, generic products) are likely to modify competitive intensity and therefore pharma companies performance
  - Competitive rivalry intensifies with:
    - Price discounting
    - New formulations, indications, products
    - Commoditization
    - Service improvement
    - Promotional costs
  - Higher pressure from groups of customers:
    - Patient advocacy groups asking for better services
    - Buying groups have increased the distributors’ leverage

- **Opportunities**
  - Substitute products or services include:
    - Alternative therapies
    - Preventive therapies (e.g. vaccination vs. anti-infective drugs)
  - Competitive rivalry intensifies with:
    - Price discounting
    - New formulations, indications, products
    - Commoditization
    - Service improvement
    - Promotional costs
  - Higher pressure from groups of customers:
    - Patient advocacy groups asking for better services
    - Buying groups have increased the distributors’ leverage

#### Competitive Advantage

- Most R&D-based pharma companies being vertically integrated, threats from suppliers are rarely an issue
- However, on the generics segment, API or DDS suppliers may have a stronger bargaining power

The “5+1 forces framework” allows to determine how strategic segment’s profit will be shared between stakeholders, depending on their respective competitive advantage.

Source: Adapted by Smart Pharma Consulting from M. Porter 2008
Attractiveness of new strategic segments should be put into a dynamic perspective and potential synergies with existing businesses also be considered

**Business strategy – Attractiveness of strategic segments (3/3)**

- The attractiveness of a strategic segment should be defined, based on the evolution of economic indicators such as sales and profits.
- Additional parameters such as potential synergies with the existing business should also be considered, while evaluating attractiveness of new strategic segments.

### Market sales dynamics (2017-2023)

<table>
<thead>
<tr>
<th></th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generics</td>
<td>Diagnostics</td>
<td>Secondary care products</td>
<td></td>
</tr>
<tr>
<td>Vaccines</td>
<td>Nutraceuticals</td>
<td>Primary care products</td>
<td></td>
</tr>
<tr>
<td>Devices</td>
<td>OTC</td>
<td>Mature</td>
<td></td>
</tr>
</tbody>
</table>

### Market profit dynamics (2017-2023)

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
</table>

Source: Smart Pharma Consulting analysis
Key success factors by strategic segment where business opportunities have been identified are driven from competitive intensity and from customers needs and wants

**Business strategy – Key success factors by strategic segment**

- **Demand analysis**
  - Who are our customers?
  - What is their respective role? (prescribers, consumers, distributors, payers, influencers, “injectors”, etc.)
  - What do they want?
  - What do they need?
  - What are their available alternatives?
  - What does create customers’ preference?

- **Competitive analysis**
  - What drives competition?
  - What are the main dimensions of competition?
  - How intense is the competition?
  - How can we obtain a superior competitive position?
  - How can we create customer’s preference?
Systematic appraisal of company’s resources and capabilities provides the basis for formulating operational strategy.

**Operational strategy crafting**

1. Identify the companies’ resources and capabilities
2. Explore the linkages between resources and capabilities
3. Appraise resources and capabilities in terms of:
   - Strategic importance
   - Relative strength
4. Develop strategy implications in relation to strengths:
   - How can these be exploited more effectively and fully?
5. Develop strategy implications in relation to weaknesses:
   - Outsource activities that can be better performed by other companies
   - Correct them through acquiring and developing resources and capabilities

**Potential for sustainable competitive advantage**

Source: Adapted by Smart Pharma Consulting from R. Grant 2008
Pharma companies should reinforce resources and capabilities that are critical to establishing a sustainable competitive advantage to generate superior profits.

**Operational strategy – Resource and capabilities assessment**

---

**Company’s relative strengths**

<table>
<thead>
<tr>
<th>High</th>
<th>+5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superfluous strengths</td>
<td>Should we lower the level of investment from these resources and capabilities or raise their importance?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key strengths</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>How do we exploit our key strengths most effectively?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Company’s relative weaknesses**

<table>
<thead>
<tr>
<th>Low</th>
<th>-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone of irrelevance</td>
<td></td>
</tr>
</tbody>
</table>

---

**Strategic importance**

(in conferring sustainable competitive importance)

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"Some resources and capabilities are needed to play, but not needed to win"

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Source: Adapted by Smart Pharma Consulting from R. Grant 2008

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1 Compared with competitors
Pharma companies capabilities can be developed or adjusted internally, as well as externally through outsourcing, strategic alliances or merger and acquisition.

### Operational strategy – Approaches to capability development

#### Merger & Acquisition
- Acquiring capabilities should be considered if desired capabilities can only be developed over long periods.
- Integrating the acquired capabilities with the acquirer’s ones involves major risks such as:
  - Culture clashes
  - Personality clashes
  - Incompatibility of management systems
  resulting in degradation or destruction of the capabilities that were sought.

#### Outsourcing
- Companies can access capabilities (and resources) by borrowing them from other companies through outsourcing arrangements.

#### Strategic Alliances
- Accessing capabilities through alliances offers a more targeted and cost effective mean than acquisition.
- A strategic alliance involves the sharing of resources in pursuit of common goals.
- Where both alliance partners are trying to acquire one another’s capabilities, the result may well be a “competition for competence” that ultimately destabilizes the relationship.

#### Internal Development
- Growing capabilities requires that companies replicate them internally…
- … by systematizing the knowledge that underlies capabilities through the formulation of SOPs.

---

Source: Adapted by Smart Pharma Consulting from R. Grant 2008

\(^{1}\) Standard operating procedures
Strategic priorities should be set after capabilities assessment to outperform competitors on key success factors inherent to each targeted strategic segment.

**Strategic priorities & competitive advantage**

**Key success factors per strategic segment**
- Exploiting pharma companies key strengths and addressing key weaknesses
- Seizing opportunities and combating threats on covered markets

**Strategic priorities**
- Deploying existing resources
- Filling resource gaps
- Building capabilities

**Pharma companies competitive advantage**
- Resources are the productive assets owned by pharma companies
- Competences condition deployment of resources through activities / processes to create advantage and superior performance

**CAPABILITIES**

**Tangible resources**
- Financial (cash flow, borrowing capacity, sources of capital, securities, capital, debtors and creditors, etc.)
- Physical (plant, equipment, facilities, locations, production capacity, access to raw material, etc.)

**Intangible resources**
- Reputation (brand equity, goodwill, corporate equity, relationships with stakeholders)
- Technology (products, patents, trademarks)
- Human (number and type of employees, skills, knowledge, loyalty, flexibility, motivation, etc.)
- Culture (values, traditions, social norms)
The three different strategic levels – corporate, business and operational – must be crafted in a consistent manner to optimize the impact on performance.

**Multi-level strategic options**

**Corporate Strategy**
- Where to play?
  - Market penetration / Consolidation
  - Product / Service development
  - Market development
  - Diversification

**Business Strategy**
- How to win?
  - “Red ocean” strategies
    - Low-price strategy
    - Focused differentiation strategy
    - Broad differentiation strategy
  - “Blue ocean” strategy
    - Innovation-driven strategy (new demand creation and capture)
    - Hybrid strategy (low-price & differentiation)¹

**Operational Strategy**
- How to execute?
  - Organic development (make vs. buy)
  - BD&L² (M&A – partnerships)
  - Capabilities & Resources alignment

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Sources: Adapted by Smart Pharma Consulting from G. Johnson et al., 2008, W.C. Kim & R. Mauborgne, 2005

¹ Eliminating or reducing costs while raising or creating value – ² Business Development & licensing
The strategic thinking process aims at aligning company’s unique capabilities and resources to seize market opportunities and address market threats.

**Strategic thinking framework (1/3)**

1. **Situation Analysis**
   - Opportunities
   - Weaknesses
   - Threats
   - Strengths

2. **Strategic Objective Setting**
   (Sales & Profit forecasting)

3. **Strategy Crafting**
   - Where to play? – How to win? – How to execute?

4. **Tactics Development**
   - Capabilities
     - Tangible resources (physical and financial)
     - R & D, Production, Market access, Medico-Marketing
     - Support Functions (regulatory, legal, HR, finance, IT)
     - Intangible resources (reputation, technology, people, culture)

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Source: Smart Pharma Consulting

¹ Including payers, physicians, patients, pharmacists, nurses
Smart Pharma Consulting recommends the following approach to craft a strategy at corporate, business and operational levels to boost pharma companies performance

Strategic thinking framework (2/3)

### Situation Analysis

- **Kick-off meeting organization**
  - Agreement on project management, scope and deliverables

- **Historical market and product data analysis (2014 – 2017)**
  - Internal and external data collection through desk research, and interviews to acquire the right level of insights
  - Analysis of sales and profits per strategic segment:
    - Competitive landscape (health authorities, clients and competitors opinions and behaviors)
    - Corporate assets (product portfolio, capabilities and resources)
  - Advanced SWOT analysis

- **Sales and profits growth modeling (2018 – 2023) by applying the on-going strategy ("as is" scenario)**

- **Writing of the situation analysis summary**

### Strategy Formulation

- **Strategy crafting workshops**
  - Review of situation analysis outputs
  - Reassessment of the strategic square (purpose, mission, vision, values)
  - Strategic objective setting
  - Review and prioritization of multi-level strategic options (corporate, business, operational)
  - Development of tactics that will support the selected strategies (alignment of capabilities and resources along the different components of the value chain)

- **Fine-tuning of the strategy**
  - Sales and profits growth modeling (2018 – 2023) following the integration of the recommended strategy and tactics ("boosted" scenario)
  - Final selection of the strategic levers (suitability, efficacy / acceptability and feasibility) to boost the performance
  - Tactical recommendations (key activities supporting strategic priorities) and monitoring tools

- **Writing of the 2018 – 2023 Strategy Plan**

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Source: Smart Pharma Consulting

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3 Key Execution Indicators (KEIs) and Key Performance Indicators (KPIs)
The following enabling tools will help pharma companies make strategic decisions and formalize them in a robust and practical strategic plan.

Strategic thinking framework (3/3)

Illustrative

Situation Analysis

Potential of current strategic segments by country

2018 – 2023 sales estimates

- France
- South Korea
- Middle-East
- Spain
- Italy
- Poland
- China
- USA

2018 – 2023 profits estimates

- Operational effectiveness level
  - Low
  - Moderate
  - High

2018 – 2023 sales growth estimates

- Current strategic segments
- Operational effectiveness improvement
- Geographic expansion
- New strategic segment(s)

Sales gap between the “as is” and the “boosted” scenarios

2018

Sales

2023

200

130

100

Feasibility

(Legal - technical - financial - economic)

Operational effectiveness

Geographical coverage

New strategic segment

Prioritized strategic levers

- Sales calls increase in Russia & France
- Development of a diagnostic tool
- Opening of an office in India
- Recruitment of a Market Access Manager
- Annual operational plan by country
- Acquisition of a franchise
- Market entry in Turkey
- Monthly scorecard from affiliates

Impact on 2018 – 2023 sales

Low

High

Source: Smart Pharma Consulting

“As is” scenario
This masterclass has been designed to help pharma executives build robust and relevant strategies while ensuring their proper execution for an optimal result

### Masterclass: Pharma Strategy & Operational Excellence

#### Day 1: Market Analysis
- **9:00** Introduction to the masterclass
- **9:10** Review and discussion of most appropriate concepts, methods and tools to analyze current strategies (at corporate, business and operational levels)
- **10:30** Break
- **10:45** Case study #1: Strategic situation analysis:
  - Analysis of strategic segments covered
  - Analysis of products/services offered by segment
  - Corporate, business and operational strategy assessment
- **13:00** Lunch
- **14:00** Presentation of the case study outputs, discussion and agreement on key learnings
- **15:30** Break
- **15:45** Lecture by and discussion with an expert:
  “Review of the most audacious and successful strategies – Lessons from non pharma markets”
- **17:00** End of the 1st day

#### Day 2: Strategy Crafting & Execution
- **9:00** Introduction to the 2nd day
- **9:10** Review and discussion of most appropriate concepts, methods and tools to craft and execute strategies (at corporate, business and operational levels)
- **10:30** Break
- **10:45** Case study #2: Strategy crafting:
  - Setting a strategic objective
  - Selecting strategic options at corporate, business and operational levels
- **13:00** Lunch
- **14:00** Presentation of the case study outputs, discussion and agreement on key learnings
- **15:00** Case study #3: Strategy execution:
  - Developing high execution standards
  - Monitoring the quality of execution with KEIs
  \[1\]
- **16:15** Break
- **16:30** Presentation of the case study outputs, discussion and agreement on key learnings
- **17:30** End of the masterclass

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1 Key execution indicators

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Source: Smart Pharma Consulting
The Best-in-Class Series
- This series intends to share concepts, methods and tools to boost the efficiency and efficacy of executives having operational responsibilities in the pharma business
- We have yet published six Best-in-Class issues:
  1. Medical Science Liaisons
  2. Pharma Marketers
  3. Medical Reps
  4. Hospital KAMs
  5. Pharma BD&L
  6. Pharma Market Research

Issue #7: Best-in-Class Pharma Strategy
- In this booklet, Smart Pharma Consulting:
  - Analyses the global pharma market structure and trends (2017 – 2023 prospects)
  - Reviews the top 30 pharma companies performance
  - Proposes a process and tools to craft strategies (at corporate, business and operational levels) and to develop a robust and relevant strategic plan
  - Presents a two-day training program on pharma strategy development and execution

Smart Pharma Consulting Editions
- Besides our consulting activities which take 85% of our time, we are strongly engaged in sharing our knowledge and thoughts through:
  - Our teaching and training activities
  - The publication of articles, booklets, books and expert reports
- As of today, more than 100 publications in free access can be downloaded from our website
- In 2017, we have published:
  - 7 position papers in the “Smart Manager Series” and in the “Best-in-Class Series”
- Our research activities in pharma business management and our consulting activities have shown to be highly synergistic
- We expect that this new publication will interest you and we remain at your disposal to carry out consulting projects or training seminars to help you improve your strategic thinking

Best regards
Jean-Michel Peny