LIFE SCIENCE IMPACT INVESTING

DRIVING DEMAND, SUPPLY AND QUALITY OF INVESTMENTS FOR FAMILY OFFICES

EBS Universität

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CSP Center for Sustainable Finance & Private Wealth

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It is becoming increasingly evident that life science impact investing can be pivotal in catalyzing improvements in global health issues, especially following the devastating impact of the Coronavirus pandemic. Although life science investments can provide financial returns and positively impact our society, many impact-interested family offices and private investors hesitate to invest in the sector.

This student report explores recommendations and actionable strategies for family offices, private investors and banks that want to increase the supply, demand, and quality of life science investments.

BACKGROUND

The field of sustainable finance attracts substantial interest by investors. In capitalism, this can be a key mechanism to achieve sustainable development.

Private high net worth investors play a vital role herein. This is due to (a) the substantial amount of capital that is controlled by families following decades of wealth concentration – 0.7% of the global population control about USD 140 trillion, ca. 50% of global wealth – and (b) the unconstrained, conviction-driven, and innovative way these families can deploy their capital.

Important barriers remain, however, to turn more of this interest into action. Surveys show that 60% of high net worth individuals are interested in sustainable finance, but less than 10% deploy their capital accordingly. Thus, substantial capital that could advance sustainable development remains untapped.

In Spring 2021, we brought groups of EBS students together with three real-world private impact investors and one fund to help them overcome four specific barriers. The results were summarized in four student reports, in collaboration with the Center for Sustainable Finance and Private Wealth (CSP) at University of Zurich. The reports cover the four topics of

- Integrating the approach of voting and engagement as a singe family office,
- Measuring the impact of investments on the U.N. Sustainable Development Goals (SDGs),
- Integrating climate change into real-estate investments,
- and the topic of this report, namely: How family offices can engage in Life Science Impact Investing.

Life sciences are a critical industry in regard to the many health-related challenges of our times, including pandemic-responses. But many family offices refrain from engaging in this sector – sometimes for the wrong reasons. I am glad that with this short report we can bring more clarity to this highly pivotal topic.

Towards impact,

Prof. Dr. Falko Paetzold
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Founder and Managing Director, Center for Sustainable Finance and Private Wealth (CSP), University of Zurich

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Life Sciences & Impact Investing:
Case Introduction

The study was conducted for a private investor from a European family. The investor holds a PhD in Molecular Biology and is an alumnus of the IRI/CSP Impact Investing for the Next Generation program for members of ultra-high-net worth families that want to engage more in impact investing. The person joined the family office following the PhD work in order to full-time build the life-sciences family portfolio and to advocate promoting life science impact investing among private investors. Here is the perspective of the investor onto life-sciences investments:

Your investments can change the environment, society, and governance structures we operate and live in. Investing impacts the world and my goal is to make sure that this impact is positive. In addition to having positive impact through my own assets, I wish to motivate other investors to invest in one of the most crucial sectors for human well-being: life sciences. This sector has the potential to save lives and increase the quality of life. However, there are several obstacles hindering life science investments, including high risk, demand for long-term investments, knowledge barriers, and ethical dilemmas. These challenges result in both a low demand and supply of life science investments. The challenge is captured in this statement by life science entrepreneur Geoff Meyerson:

"I've met many families who will write 8 to 9-figure checks to research hospitals but will not invest anything in the startups that come from the innovation that they fund."

In order to address this challenge, I focus on impact investments in the life science sector by screening portfolios, investing in impact funds, and concentrating on direct investments in companies that I believe can positively influence society.

Despite my drive to pave the way for impact, the following questions still need answering:

- *What can I do to increase the demand and supply of life science investments?*
- *What changes need to happen to increase the number of impact investors in the life science sector, such as in early-stage life science projects?*
- *Furthermore, I, as a co-owner of a family office, want to know: How I can use potential impact to evaluate life science companies and choose the best initiatives to invest in?*

My question to the EBS students was the following: What actionable strategies can family offices and private investors deploy to increase the demand, supply, and quality of life science investments?

METHODOLOGY

Our research method followed a qualitative framework:

1. Firstly, we conducted a literature review using keyword search to identify trends in the life science sector, including obstacles that influence the demand, supply, and quality of life science investments.
2. Secondly, we analyzed our findings with information gathered through standardized-open ended inter views. Expert interviewees, namely family offices, were selected by purposeful sampling.
3. Lastly, after having built a theoretical background, we analyzed current life science investment practi ces of family offices.

KEY FINDINGS

In sum, the key findings can be broken down into four main topics: emotions, knowledge, demand & supply and lastly quality. Below figure presents an overview of the key findings and the corresponding recommendations. As indicated on the right hand side of the figure, each topic leads to specific recommendations for family offices, banks, and sometimes for private investors.

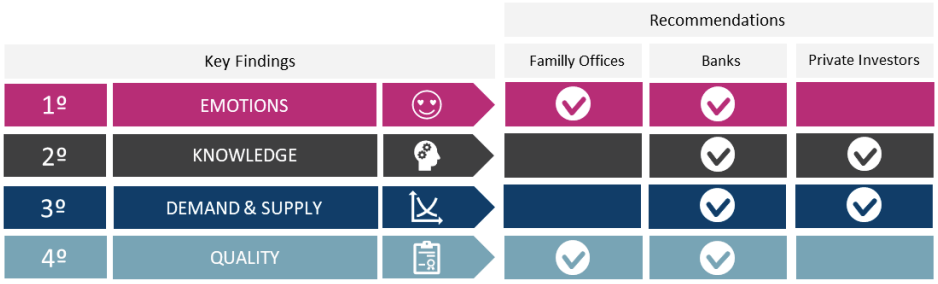


Figure 1. Overview of key findings and corresponding recommendations

The research process identified several factors that are indicative for potential ways on how to increase the demand, supply, and quality of life science investments. These findings lay the ground for corresponding recommendations. Figure 2 gives a summary of the four key findings that were identified during the research, while providing key statements that support the formulation of the findings.

Figure 2. Summary of key findings

1. EMOTIONS: Life science investments address a broad spectrum of attributes. Highlighting the outsized potential for positive impact can help spark investor interest.

Life science impact investing addresses a broader spectrum of attributes going beyond mere financial performance. This includes the life-saving and -improving impact that life science projects can have on large numbers of people.

Life science investments, therefore, can speak to the investors' emotions and make investments meaningful by introducing the aspect of real-world positive impact. Emotions and personal values can be a door-opener to facilitate investors' interest in life science investments. Asset managers can use these emotions as a vehicle to approach investors and provide them with tangible knowledge about the impact such investments have. This can also open up the spectrum of like-minded investors that equally care for positive impact. In sum, building awareness of the outsized potential impact of investments in life sciences can increase the willingness to invest in life sciences.

2. KNOWLEDGE: Information asymmetries negatively impact the perception of private investors regarding life science investments. Sufficient and reliable information is pivotal in transforming interest into investments.

Research has indicated that private investors lack sufficient information regarding life science investments. This creates information asymmetries between asset managers and private investors, leading to misperceptions among investors.

For example, it is commonly believed that life science investments are very risky, obtain low returns, and have an average investment period of 12 years (Noris, 2016). However, life science investments can outperform other sectors regarding risk-adjusted returns, have an investment period of five years, and contribute to portfolio diversification (Cross, 2018; Noris, 2016). These misconceptions can lead to lowered interest in the sector despite the positive impact these investments could have. At the same time, research suggests that investors are more likely to invest in sustainable investment themes, such as life science investments, when provided with sufficient information. Additionally, greenwashing, or the practice of disguising traditional investments as sustainable investments, could be mitigated if investors had more and better knowledge of the sector and were aware of the relevant questions to ask when considering investing in life sciences. Figure 3 indicates the most common misperceptions related to life science investments and provides clarifying counter-evidence. The main misperceptions are grouped into five topics: high risk, low returns, long investment periods, risk of involvement in misconduct and lack of investment options.

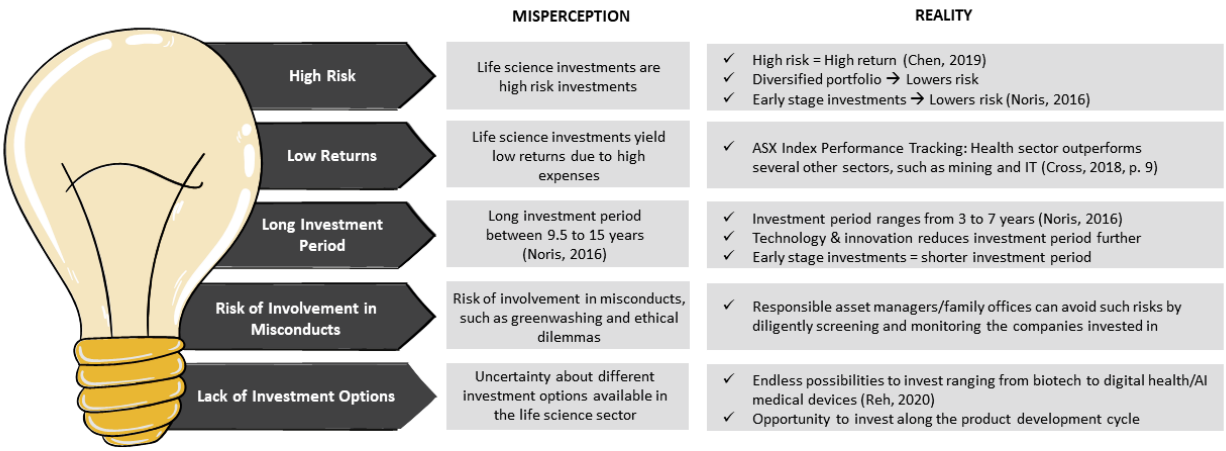


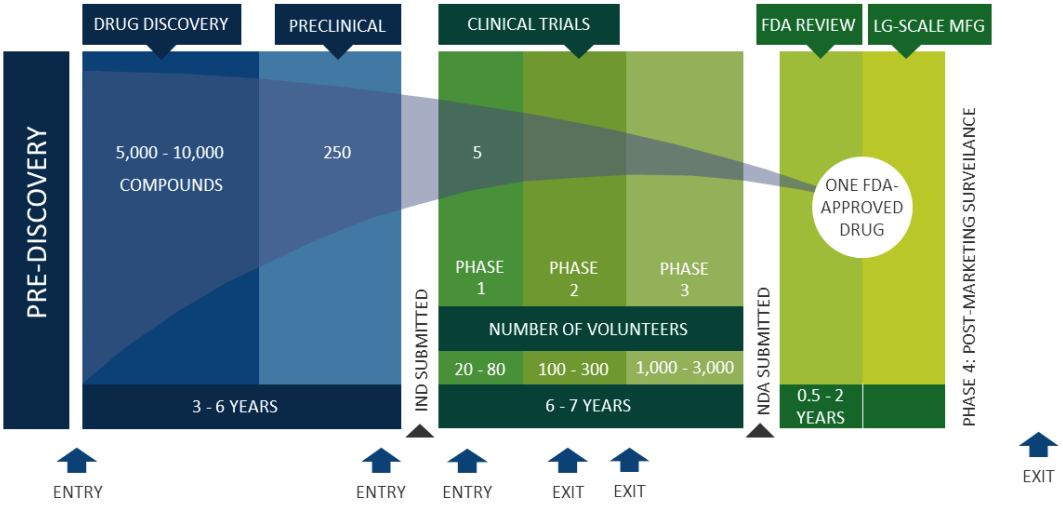
Figure 3. Commonly perceived misperceptions vs reality in the life science sector

3. DEMAND & SUPPLY: Increasing demand for life science investments creates incentives for family offices to supply more and better investment opportunities.

The past decade has seen the demand for impact investments grow significantly. The life science sector was put in the spotlight following the Coronavirus crisis, and contemporary dynamics – such as the looming crisis from anti-biotic-resistances from overuse in animal feeds – speak in favor of further increases in the demand for life science investments.

The limited supply of innovative investment opportunities in the sector, however, has already led to high valuations of publicly listed life sciences firms, and decreased potential risk-adjusted return prospects for investors in public markets.

Life-science investments provide a broad spectrum of investment opportunities, for example, when investing in the early stage of the development of a new drug (Figure 4). It is important to note that family offices have a critical role to play in providing the catalytic capital that is required for early-stage life science projects, hereby meeting the projected demand by increasing the supply of life science investments. Further, given the renewed interest and attractiveness of life science investments, asset managers and institutional investors would be motivated to recognize the attractiveness of life science investments, and therefore provide increased financial return opportunities.



Adapted From: (Pharmaceutical Research and Manufacturers of America, 2007)

Figure 4. Investment options along the drug development phases (indicated with entry and exit)

4. QUALITY: Family offices perceive the spectrum of risks in the life sciences sector as too broad for their capacities. Facilitating risk assessments could go a long way.

Research has shown that family offices often struggle to choose companies to invest in within the life science sector because of the many risks that are associated with it. Firms within the life science industry specialized in biotechnology, pharmaceuticals, and medical devices face several risks, such as long product development cycles, failure during 'trial-and-error phase', competition for intellectual property and patent rights, and fair product prices. Additionally, these firms need to conform to regulatory standards, legislative risks, and insolvency. These risks need to be assessed diligently by family offices when choosing companies for their portfolios.

KEY RECOMMENDATIONS

Based on the four findings - emotions, knowledge, demand & supply, and quality - four actionable recommendations tailored for family offices, banks and private investors address the concerns and underlying assumptions identified in the research (see Figure 5). It is pivotal to outline that in order to achieve the goal of increasing demand, supply and quality of life science investments, banks have to take action and this report proposes a few ways on how they can do this. Previous literature seems to suggest that banks should act as the initiator to enable family offices to engage in life science impact investing. Therefore, all recommendations made also apply for banks and asset managers. Furthermore, the appendix provides an additional suggestion for a 'knowledge question framework' for private investors and a 'scoreboard' for family offices and banks. This framework can help as a step towards enabling the evaluation of investable life science companies.

Figure 5. Summary of key recommendations

1. EMOTIONS: Emotional selling coupled with transparent, visual information about impact can motivate investors to consider life science investments.

Banks & family offices: Investors and intermediaries interested in getting other investors on board could increase awareness about the potentially outsized positive impact of life-science investments. This can be accomplished by providing transparent information regarding the achieved impact and by presenting facts, figures, and visual content . Figure 6 outlines a customer journey of private investors and how emotional selling could be deployed by banks and family offices within each stage to achieve an increase in demand for life science investments.

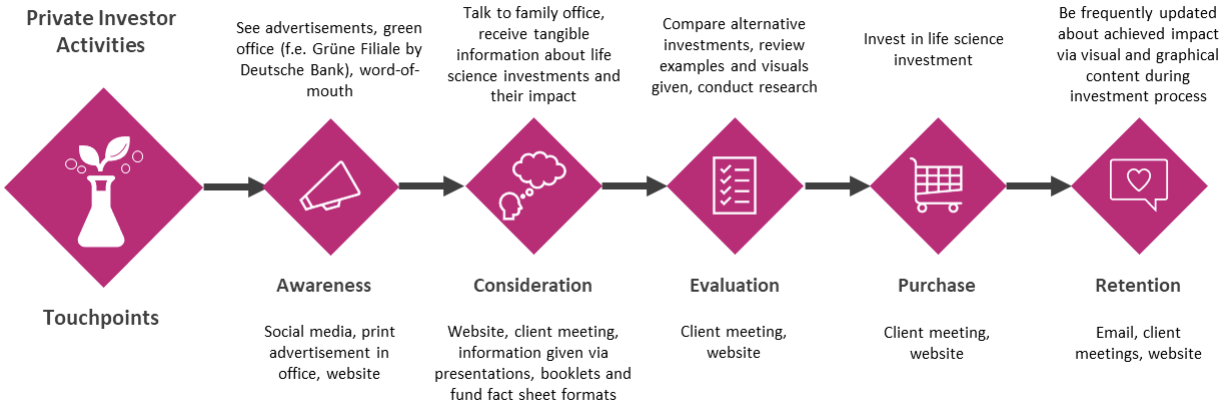


Figure 6. Customer journey of private investors

2. KNOWLEDGE: Misperceptions among investors can be avoided if banks provide the right data and private investors ask the right questions.

Banks: Intermediaries can tackle misperceptions of life science investments by providing the suitable information about the benefits and risks, and successful examples of life science investments in a fund factsheet format and via science-based presentations.

Private Investors: Private investors should ask the right questions to gain more information and correct misperceptions regarding life science investment during meetings with their asset managers or their family office experts. Appendix 1 outlines a question framework that private investors could familiarize themselves with in order to realize this recommendation. The framework and featured questions ensure that misperceptions are avoided, thereby allowing investors to make sound decisions.

3. DEMAND & SUPPLY: Word-of-mouth is essential to increase demand. Family offices should create demand by increasing supply of life science investment options.

Banks: Intermediaries could explore offering life science investments as part of their standard investment portfolio recommendations. They should also provide various investments options within life science investments, such as relating to different risk and return profiles and a diverse selection of investment periods along the product cycle in this particular sector.

Private Investors: Private investors could increase demand for life science investments by discussing the investment opportunities with their peers and family. Simply put: Talk about life science investments!

4. QUALITY: Family offices could deploy a mechanism to systematically and diligently score firms based on distinct criteria. This will help decide which company to invest in.

Banks & Family Offices: Banks and family offices alike can screen companies based on several criteria, such as the team's experience, and score all potential companies based on their performance before investing in them. Appendix 2 features a scoreboard that to help do this. Figure 7 depicts an overview of the scoreboard assessing companies within five distinct categories noting which company to select and which to deselects based on their scoring.

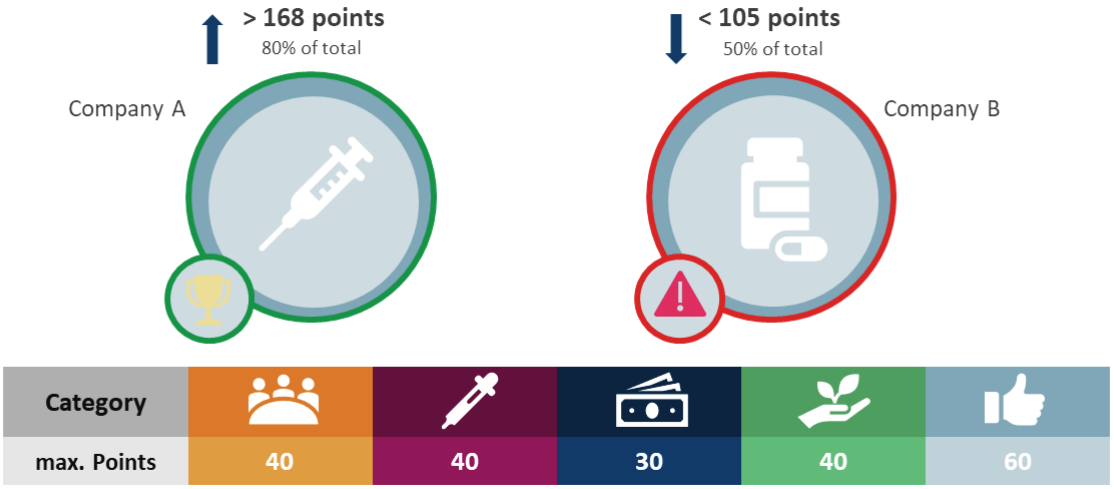


Figure 7. Scoring mechanism of "The Life Science Investment Scoreboard"

CONCLUSION

Overall, the findings with their proposed recommendations outline ways in which family offices, private investors and banks can increase the demand, supply and quality of life science investments, hereby bringing attention to a sector that is considered as one of the main catalysts for improving people's lives and the overall welfare of our world. Family offices, private investors and banks have the power to create the real enduring impact that is much needed today. It is important to keep in mind that the key to achieving this goal relates to four aspects concerning life science impact investing:

1. Emotions: Achieving social impact with life science impact investing.
2. Knowledge: Increasing transparency and available information regarding life science investments to bridge asymmetric information.
3. Demand & Supply: Realizing positive risk-adjusted return to bridge the balance between demand and supply.
4. Quality: And, lastly, being able to assess the potential and risks of life science firms to invest in.

FUTURE RESEARCH

This report focuses on the role of investors, mainly intermediaries and family offices, which can fundamentally advance the life science sector. Future research could analyze and propose strategies for other stakeholder groups, namely governments and regulators, life science firms, and patients and doctors. Research focusing on these actors has the power to align and coordinate actions resulting in a significant shift in the life science sector. Such a shift has the potential of catalyzing accessible and affordable healthcare – whilst reshaping how we invest in impact.

ABOUT THE AUTHOR:

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Aurelia Schildknecht obtained a BSc in Business Studies at EBS Universität für Wirtschaft und Recht with a major in Finance in 2021, to commence her Master's Degree in 2022. Aurelia is particularly interested in asset management and sustainable finance, and firmly believes that the power to reshape our world towards sustainability lies in the way we invest. Therefore, she has focused her studies on sustainable investments and wrote her bachelor thesis on the topic of ESG investment performance and private investor willingness to invest for which she obtained the SRH Social Impact Theses Award 2021.

ACKNOWLEDGEMENTS:

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Appendix 1. Knowledge Question Framework

Template enabling private investors to ask the right questions during meetings with their asset manager or family office regarding life science investments

Directions to Use: This Knowledge Question Framework was designed for private investors to act as a helpful tool during meetings with their asset manager or family office. It provides investors with the right questions to ask during their meetings to increase security in investment decision-making concerning life science investments. There are two main sections in the knowledge question framework: **My investment desires** and **Potential questions to ask.** With the usage of "My investment desires," investors can consider their wishes and desires or record possible questions in the notes section concerning the life science investment before the meeting. The section "Potential questions to ask" gives investors ready-made questions to ask their asset manager or family office during the meeting.

Step-By-Step Manuel:

1. Familiarize yourself with the knowledge question framework; print it out!
2. Research about your potential investment desires
3. Fill out "My investment desires" before the meeting
4. Write down potential questions/comments in the "further notes" section of "My investment desires" before the meeting
5. Bring the completed form to the meeting
6. Ask the right questions during the meeting (look at section "Potential questions to ask")
7. Record further questions and comments which arise during the meeting in the further sections
8. Feel confident to make a decision? Choose your desired investment!

- Please see next page for knowledge question framework -

KNOWLEDGE QUESTION FRAMEWORK FOR PRIVATE INVESTORS

Date:

MY INVESTMENT DESIRES

Investment Period:

Return:

Risk/Volatility:

Subsector Preference Within Life Science Sector:

- AI/medical devices
- Digital Health
- Pharmaceuticals
- Biological products
- Genetics
- No Preference
- Diagnostic Systems
- Nutraceuticals
- Other

Further Notes:

POTENTIAL QUESTIONS TO ASK

Return and Risk:

What is the risk profile of this investment / what are the different risk profiles of life science investments?

How do you ensure returns? What are the different return profiles of life science investments?

KNOWLEDGE QUESTION FRAMEWORK FOR PRIVATE INVESTORS

Investment Period

What different investment periods do your life science investments offer?

How liquid are life science investments if I want to exit?

What different investments do you offer along the product (f.e. drug) development phases?

Availability of Different Life Science Investment Options

In what different life science subsector can I invest?

Transparency and Reliability of Life Science Investments

How do you screen life science firms?

What monitoring processes are in place to frequently re-evaluate firms invested in?

KNOWLEDGE QUESTION FRAMEWORK FOR PRIVATE INVESTORS

Impact Achieved by Life Science Investment

How does this investment create meaningful and sustainable impact?

What does the investment aim to achieve?

Does this product "really" meet an unmet societal need?

How will I be updated about the impact achieved during the investment period?

FURTHER NOTES AND QUESTIONS

Appendix 2. Life Science Investment Scoreboard

Identifying the most promising firm considering their potential impact within the life science sector

Directions to Use: The Life Science Investment Scoreboard was designed to help family offices and banks identify the most promising life science firms considering their potential impact. The goal of the scoreboard is to enable a simple scoring framework by which family offices and banks can decide whether to invest in a company or not. The scoreboard consists of five major categories. Each category contains several indicators that explain how to gather information and criteria based on certain subpoints. The guiding questions can help collect even more information by approaching the potential firm directly with these questions. This ensures that information that isn't available online can still be found. The indicators and guiding questions act as inferences family offices and banks can use to score the company in each distinct subcategory.

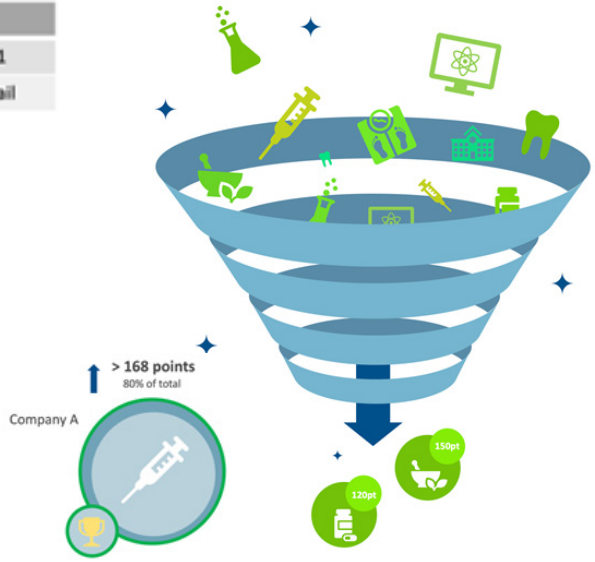
Grading Key					
Score	5	4	3	2	1
Description	Very Good	Good	Satisfactory	Sufficient	Fail

Step-byStep Manual

1. Familiarize yourself with the scoreboard; print it out!
2. Search for information using the indicators
3. Determine scores (0-5, 5=very good) for each subcategory that gained enough information
4. Determine subcategories that lack information; approach the company with guiding questions
5. Fill in all missing scores; add them up
6. Determine if each category achieved more than 50% of points; Screen firms in or out
7. Repeat steps 1-8 along the investment period to monitor the firm

CATEGORIES	MIN. points needed	ACTUAL SCORE
MANAGEMENT AND TEAM	20	/40
PRODUCT	20	/40
REVENUE	15	/30
ENVIRONMENTAL CRITERIA	20	/40
SAFETY AND ETHICAL BEHAVIOUR	30	/60
TOTAL	**105**	**/210**

Benchmark: Every company with a score below 105 (50% of 210) should not be chosen to invest in.



Benchmark: Every company with a score above 168 (80% of 210) should be considered as a good investment.

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SCOREBOARD PART 1 - MANAGEMENT AND TEAM

MANAGEMENT AND TEAM	Indicators	Potential Questions to Ask Firm	Score (0-5)
Highly Skilled and educated employees	Percentage of PhDs	Are the employees familiarized with the operations in the field, and what could suggest this?	/5
Talent retention rate	Annual employee turnover rate	What is the employee turnover rate, why are employees usually sanctioned, and why do they leave?	/5
Quality of board and tap-level executives	Background in relevant topics; knowledge of specific or similar sector; number of members with background in different industries; preferably a separation of CEO and Chairman role	Does the team have the relevant knowledge and experience necessary to address challenges and develop the company?	/5
Board independence	Percentage of board members independent from biggest shareholders	Is there any relationship between the board members and the most significant shareholders that could create obstacles to the development of the project? Is there any conflict of interests?	/5
Fair executive compensation structure, including CEO's remuneration	Relative to industry average	What are the earnings and wages of the executives? How big is the gap between executive members and employees?	/5
Innovative company culture	Overall company structure; number of layers; number of committees; key teams with direct contact to the top; specific set of challenges, budgets and timeframes per team; acquisition of new talents	How is the company structured, and does it foster creativity and innovation? What is the level of communication between top-management and the teams at the bottom of the pyramid? Are the activities and roles of each of the teams transparent and pre-defined with well-structured objectives, budgets and time-frames?	/5
Diversity	Number of nationalities; range of ages; gender ratio	How many nationalities are there in key roles of the organization? What is the age range in the organization? Is the organization emphasizing diversity in their recruitment process?	/5
Networks	Key and relevant partners; quality of suppliers; relationship with stakeholders	Is there any potential or ongoing collaboration with other parties? Does the company have networks across different business units and organizations? What is the risk of sharing or unintentionally leaking intellectual property? What is the relationship with the suppliers, and what are the standards? How much influence do the stakeholders have? Is the stakeholder more or less influential in certain areas/ topics?	/5
TOTAL			/40

Adapted From: (Bjerke & Rosenberg, 2018)

SCOREBOARD PART 2 - PRODUCT

PRODUCT	Indicators	Potential Questions to Ask Firm	Score (0-5)
Innovative pipeline	Percentage of internally innovated solutions	How many innovative products are in the actual work stream?	/5
Investments in research and Development (R&D)	Percentage of the budget dedicated to R&D; percentage of employees working on R&D	How much is invested in R&D?	/5
Product differentiation	Compare own R&D performance over time to other companies R&D performance over time (Aase, Swaminathan, Brown & Roth, 2018), generic and non-drug alternatives, effectiveness or ease of use relative to competing therapies, unique selling point relative to the alternatives (PwC, 2020)	How innovative are the products? How many other companies are working on the same product?	/5
Phase of development	Clear classification whether the solution is in the (ex. drug) discovery, preclinical, clinical trial, FDA (food and drug administ-ration) Review, or the LG-Scale MFG (large scale manufacturing) phase	In what phase is the product? When will it reach the next phase?	/5
Trial and error phase	Trial and error phase has been passed	Has the trial and error phase been passed?	/5
Medical need assessed	Percentage of people in the population that could benefit from the product	How big is the problem that the product addresses? How many people could benefit from it?	/5
Economy being addressed	Identify whether the solution is addressing disparity in a less economically developed country	Where is the product supposed to make the most impact? Which country or economy is the focus of the product?	/5
Preliminary market access strategy	Price should be fair in relation to the socioeconomic and clinical benefit the product will bring; value-based reimbursement	What is the market access strategy that is being planned?	/5
TOTAL			/40

Adapted From: (Bjerke & Rosenberg, 2018)

SCOREBOARD PART 3 - REVENUE

REVENUE	Indicators	Potential Questions to Ask Firm	Score (0-5)
Innovative pipeline	Risk in the particular phase compared to the industry average in specific or similar sector; potential success rate average in specific phase; time-frame of project development; need of current and future funding; size of the investment round	How many innovative products are in the actual work stream?	/5
Cost analysis	Use of cost based-method; cost of treating individual patients; total medical expenditure on the disease; the potential to reduce overall healthcare costs, potential cost of development; costs incurred including research funding costs; legal, intellectual property administration fees and non-recoverable taxes (Crean, 2016; PwC, 2020)	Main analysis is via „Indicators“	/5
Value of particular issue of stock / allocation of value of the company among the various issues of outstanding preferred and common stock (mid-to-late stage companies)	Current value method; the option pricing method (OPM); probability-weighted expected return method (PWERM) (Crean, 2016; Hempstead, 2009)	Main analysis is via „Indicators“	/5
Revenue projection	Maximum annual rate of the product's sales in its whole life cycle (comparing the target to other similar products): Take into account competition, the expected time required to reach peak sales, the life cycle of the drug, and the expected erosion rate of sales due to generic competition upon patent expiration (Crean, 2016; Hempstead, 2009)	What is the product's economic profile, relative to that of competing products?	/5
Real options approach to valuation (exit in different stages of development)	Decision tree analysis: Key decision points of the project, along with the expected cash flow result of each outcome and the probability of the occurrence of each outcome, cash flow is adjusted to account for the probability of occurrence, sum of cash flows from all of the scenarios are discounted to the presented to establish the value (Crean, 2016; Hempstead, 2009)	Main analysis is via „Indicators“	/5
Valuation of pre-revenue companies (pre-and-post money valuation)	Venture capital method	Main analysis is via „Indicators“	/5
TOTAL			/30

Adapted From: (Bjerke & Rosenberg, 2018)

SCOREBOARD PART 4 - ENVIRONMENTAL CIRTERIA

ENVIRONMENTAL CIRTERIA	Indicators	Potential Questions to Ask Firm	Score (0-5)
Transparency and support of environmental concerns	Advocating and addressing concerns about environmental issues via media; informative public communication; good IR communication	What practices are implemented to ensure sustainable product development? Does the company contribute to global initiatives that work towards environmental concerns?	/5
No severe environmental damage	"E" category of ESG rating (Sustainalytics, Bloomberg, etc.)	How is environmental damage during product development avoided? Is the company committed to finding new practices to prevent severe environmental damage?	/5
No unacceptable greenhouse gas emissions (GHG)	Carbon Disclosure Project; ESG rating; Non-financial report of firm	How does the company avoid high pollution and emission of greenhouse gases?	/5
No gene manipulation of human Embryonic stem cells	Company history; media portrayal of company; informative public communication; good IR communication	What opinion does the company have about gene manipulation, and how do they address their expressed concerns to society?	/5
No mismanagement of biowaste	Carbon Disclosure Project; ESG rating; Non-financial report of firm	How is mismanagement of biowaste avoided?	/5
ESG conformity of production lines and suppliers	ESG rating (Sustainalytics, Bloomberg, etc.); Non-financial report of firm; public disclosure of suppliers and partnerships	How does the firm ensure that their suppliers are ESG conform? How does the firm ensure that all stages in their production are ESG conform?	/5
Low emission of environmental persistent pharmaceutical pollutants (PHP)	Carbon Disclosure Project; ESG rating; Non-financial report of firm	How are high emissions of environmental persistent pharmaceutical pollutants avoided?	/5
Environmental vision: Committed to mitigating their climate and environmental impact	Non-financial report of firm; portrayal of environmental commitment; informative public communication	What is the company's goal in terms of sustainability? How do they make their clients and employees aware of environmental issues, and how does the company address them?	/5
TOTAL			/40

Adapted From: (Bjerke & Rosenberg, 2018)

SCOREBOARD PART 5 - SAFETY AND ETHICAL BEHAVIOUR

SAFETY AND ETHICAL BEHAVIOUR	Indicators	Potential Questions to Ask Firm	Score (0-5)
Sound, ethical mission and values	Advocating and addressing concerns about ethical issues via Media; incorporating strong ethical values into company's goal, "S" and "G" category of ESG ratings (Sustainalytics, etc.)	How does the company define their mission and vision? How does safety and ethical behaviour play a role in the mission and vision? Does the company take part in global health initiatives? How does the firm ensure that their mission/ values are enforced by their suppliers?	/5
Adhering to pre- and clinical protocols	Transparency and reports; evaluation by regulatory authorities	How does the company adhere to pre- and clinical protocols? How does the firm ensure they stay on track with new pre-and clinical protocols? What are the likely pre-approval regulatory hurdles and post-regulatory requirements?	/5
Response to regulations and new laws they are subjected to	Evaluation by regulatory authorities	How does the company ensure that they stay on track with regulations? How does the company respond to regulations?	/5
Conduct of evergreening	Informative public communication; strong media portrayal of advocacy against evergreening	What is the company's opinion on evergreening? How do they avoid evergreening?	/5
Involvement in ethical misconducts or dilemmas	Evaluation by regulatory authorities; "S" and "G" category of ESG ratings (Sustainalytics, etc.)	What risk management practices are in place to avoid ethical miscon-ducts?	/5
No dishonest communication of testing results	Evaluation by regulatory authorities	How does the company communicate their testing results to clients and investors?	/5
Pricing policies	Sound price in relation to clinical and socioeconomic benefit; value-based reimbursement	How does the company ensure a fair and affordable price? Explain/ reason the price. Why would the company argue the price to be a fair price?	/5
Safe and ethical product development	Evaluation by regulatory authorities	How is safe and ethical product development ensured? How are pre-clinical trials made as safe as they can be?	/5
Transparency of study protocols and procedures	Informative press releases; clinical trials in countries of high safety and ethical standards	How does the company communicate their study protocols and procedu-res with investors and clients, as well as trial subjects?	/5

Adapted From: (Bjerke & Rosenberg, 2018)

SCOREBOARD PART 5 - SAFETY AND ETHICAL BEHAVIOUR

SAFETY AND ETHICAL BEHAVIOUR	Indicators	Potential Questions to Ask Firm	Score (0-5)
Qualified clinical investigators overseeing administration of experimental compound	Evaluation by regulatory authorities	Does the company have a qualified clinical investigator overseeing the administration of experimental compound? If yes, what is their task?	/5
No violation of human rights	Evaluation by regulatory authorities; informative press Releases; informative public communications; "S" category of ESG ratings (Sustainalytics, etc.)	How does the company advocate against the violation of human rights? Do they screen their suppliers regarding violation of human rights and what action do they take?	/5
Past decision making regarding ethical decisions	Informative press releases; handling of past failures; advocating and addressing concerns about ethical issues via media; past decision-making and addressed issues	How did the company handle past misconducts? How did the company ensure that past misconducts were handled trans-parently? How were significant stakeholders informed and enlightened about misconducts?	/5
TOTAL			/60

Adapted From: (Bjerke & Rosenberg, 2018)

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