



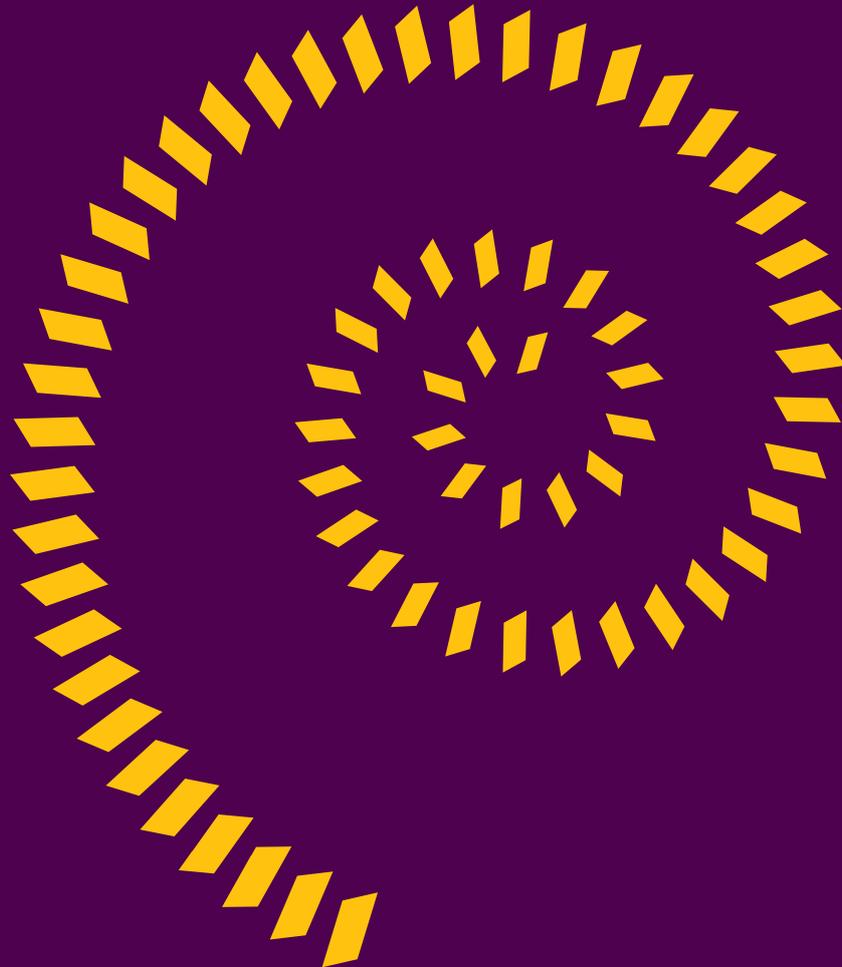
MARS



**Economics
of Mutuality**

Solvay Chemical

An Economics of Mutuality case study



Responsible Business Forum: The Economics of Mutuality

18 -19 May 2018

Solvay Chemical



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About the Responsible Business Forum Case Studies

This series of case studies explores how mutual approaches to business can help companies and their partners tackle some of the most pressing global challenges. The businesses featured in this series share a commitment to objectives beyond purely financial performance, as well as a serious intent to implement mutual practices through new forms of ownership, governance, leadership, measurement and management.

In particular, these cases address the measurement of multiple forms of capital, ecosystem shaping approaches, leadership development, business education, and policy formulation through laws and regulation that promote mutual conduct. The authors appreciate the collaboration of participating companies in creating these cases.

These cases were first developed for the annual Responsible Business Forum, the convening event of the Mutuality in Business Project, a joint research programme between Saïd Business School, University of Oxford, and the Catalyst think tank at Mars, Incorporated. The Responsible Business Forum brings together global companies, MBA candidates, scholars and activists to share their experience in confronting key challenges in their ecosystems to generate financial, social and environmental value.

Authors' Note

The conclusions and recommendations of any Saïd Business School, University of Oxford, publication are solely those of its author(s), and do not reflect the views of the Institution, its management, or its other scholars. These cases are based on information provided to the researchers by participating companies.

Mutuality in Business

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Executive Summary

Solvay Chemical

Established in 1863, Solvay is a global chemical company. Headquartered in Belgium, it employs approximately 25,000 people and operates in 61 countries. Global in scale, Solvay took in €10.1 billion in revenue in 2017.¹

As part of its stated organisational mission, Solvay is “committed to developing chemistry that address[es] key societal challenges.”² The business produces a range of chemical products with applications in health, agriculture, electronics, aerospace and automotive, industrial and consumer goods.³ The company, moreover, was founded as a family business, and family members continue to control 80% of the shares of the publicly traded holding company, Solvac. With control of 30% of Solvay shares, Solvac is the main shareholder in Solvay.⁴

Maturity Business Strategy

In response to growing uncertainties facing the chemical sector, Solvay has initiated a strategy of measuring and weighting non-financial indicators alongside financial factors in its strategic decision-making. As a result, Solvay has positioned itself as a supporter of sustainability in both its daily operations and long-term strategy. Meeting existing, and anticipating future, sustainability challenges has become a key priority for Solvay. Recognising sustainability as integral, rather than secondary to assessing its profit and loss, Solvay has committed to developing new tools and strategies around product sustainability.

Specific EoM Contributions

Solvay has developed a tool called the “Sustainable Portfolio Management” (SPM) system, which provides a means of identifying, planning and operationalising sustainable business strategies. SPM maps the business’s strengths and weaknesses, thereby guiding the company towards creating products that provide sustainable solutions in the marketplace and reduce environmental and social risks for the company.

Using a decision tree, the SPM tool separates Solvay’s products into the categories of “challenges,” “neutral” and “solutions.” Placing its products along of range of those posing the most challenges to those posing the fewest, Solvay now has a novel means by which to assess risk and opportunity throughout its product line.

Performance

Solvay has found that products within the “solutions” category, which meet higher social and environmental standards, have grown 9% faster than those not in this category.⁵ In contrast, those in the “challenged” category have slowed in their growth by -3%.⁶ Between 2015 and 2016, the company increased the percentage of sales in “solutions” category from 33% to 43%, up from 25% in 2014.⁷

Prognosis

At present, it appears that the SPM tool has been helping lead the business to strong performance across environmental, social and financial metrics. Above all, SPM has become integral to strategic decision-making within the company, informing Merger and Acquisition (M&A) strategy, decisions about investments, and improved customer engagement through marketing and sales.

1. “Annual Integrated Report 2016,” Solvay.
2. “Home,” Solvay, Solvay.com, <https://www.solvay.com/en/index.html>
3. “Annual Integrated Report 2016,” Solvay.
4. “Annual Integrated Report 2016,” Solvay.
5. “Annual Integrated Report 2016,” Solvay.
6. “Annual Integrated Report 2016,” Solvay.
7. “Annual Integrated Report 2016,” Solvay.

Solvay Chemical: A tool for identifying and planning sustainable business strategies

About the company

Established in 1863, Solvay is a global chemical company. Headquartered in Belgium, it employs approximately 25,000 people and operates in 61 countries. Global in scale, Solvay took in €10.1 billion in revenue in 2017.⁸ As part of its stated organisational mission, Solvay is “committed to developing chemistry that address[es] key societal challenges.”⁹ To this end, Solvay produces a range of chemical products with applications in health, agriculture, electronics, aerospace and automotive, industrial and consumer goods.¹⁰ The company, moreover, was founded as a family business, and family members continue to control 80% of the shares of the publicly traded holding company, Solvac. With control of 30% of Solvay shares, Solvac is the main shareholder in Solvay.¹¹

In recent years, Solvay has increased its focus on products that provide “sustainable solutions.” Simply put, Solvay has begun asking fundamental questions about its own impact and ability to continue creating value into the future. Solvay’s line of questioning initiated a process of redefining value

creation, moving the company towards a long-term strategy of considering how non-financial, or in Solvay’s term, “extra-financial,” forms of capital impact the business. How, Solvay asks, can the company do more good and at the same time do less bad? Solvay aims, in this way, to maximise its sustainability practices and minimise its negative environmental impact. By “asking more from chemistry,” Solvay aims to create sustainable solutions and strategies that will carry the company into the future.¹²

In examining Solvay’s mutual business strategy, this case study focuses in particular on the company’s Sustainable Portfolio Management (SPM) tool, which provides a means of identifying, planning and operationalising sustainable business strategies. As the annual report from 2016 states, Solvay takes “financial and extra-financial criteria into consideration in operational management and strategy decisions.”¹³ This initiative helps integrate sustainability strategies holistically into Solvay’s strategic decision making.

8. “Annual Integrated Report 2017” Solvay.
9. “Home,” Solvay, Solvay.com, <https://www.solvay.com/en/index.html>
10. “Annual Integrated Report 2016,” Solvay.
11. “Annual Integrated Report 2017” Solvay.
12. “Annual Integrated Report 2016,” Solvay.
13. “Annual Integrated Report 2016,” Solvay.

Mutuality business strategy

Solvay has built its business around creating “sustainable solutions.” Aligning with the UN Sustainable Development Goals (SDGs), Solvay has positioned itself as a supporter of sustainability in its daily operations and long-term strategy. In the company’s estimation, sustainable solutions must have “direct, significant and measurable social and/or environmental” impacts.¹⁴ Meeting existing, and anticipating future, sustainability challenges has become a key priority for Solvay. Recognising sustainability as integral, rather than secondary to assessing its profit and loss, Solvay has committed to developing new tools and strategies around product sustainability.

These issues have particular salience for chemical companies looking to remain competitive in the future. As Solvay’s 2016 Annual Integrated Report puts it, “growing uncertainties” characterise the present.¹⁵ Recent industry analysis suggests that the chemicals sector faces a number of critical structural challenges. According to an industry report, “demand for chemicals has fallen,” with industry sales growth increasing only “an anaemic 2.1 percent in 2016 as the sector faced declining industrial production and broad inventory rightsizing by many of its customers.”¹⁶ With growth of the sector appearing unlikely in the coming years, industry experts urge chemical companies to explore strategies that may lead to “profitable growth,” such as “value capture, digitisation and smarter portfolio management.”¹⁷ Moreover, across the sector, there is a growing recognition that “structural weakness in most markets and recycling and reuse, which impact the sale of virgin materials, are combining to substantially reduce demand.”¹⁸ Faced with these challenges, chemical companies are seeking new strategies to keep their businesses competitive in the future.

New approaches, additionally, must acknowledge and take into account the finitude of the earth’s natural resources. For a chemical company, these sustainability considerations carry particular weight. The understanding that quantities of certain natural resources are fixed may help guide strategy. As a result, determining market share will likely prove a crucial challenge in the coming years.¹⁹ Future opportunities within this sector will likely result from developing substantively different strategies from those of the previous paradigm. The reciprocal nature, and interdependency, of financial and non-financial forms of capital rest at the core of this new approach. In response to challenges across the ecosystem, companies in the chemicals sector must look for new ways to keep their product competitiveness in times of uncertainty for the industry.

Solvay, accordingly, has taken a lifecycle approach to its products, looking for ways to ensure that the business is ready to tackle the “planetary issue of resource scarcity.”²⁰ By identifying and potentially getting ahead of challenges within its product ecosystem, Solvay aims to ensure the sustainability of both the earth’s natural resources and its business. Looking to the future, Solvay has begun implementing a strategy that may help it retain its position and ensure growth in the years to come. Through “anticipation, innovation and agility,” Solvay aims to foresee and respond to challenges down the line.

14. “Annual Integrated Report 2016,” Solvay.

15. “Annual Integrated Report 2016,” Solvay.

16. Bebiak et al., “2017 Chemical Industry Trends: Delivering profitable growth in a hypercompetitive, low-growth world,” strategy&, PwC, 3.

17. Bebiak et al., “2017 Chemical Industry Trends: Delivering profitable growth in a hypercompetitive, low-growth world,” strategy&, PwC, 11.

18. Bebiak et al., “2017 Chemical Industry Trends: Delivering profitable growth in a hypercompetitive, low-growth world,” strategy&, PwC, 8.

19. Bebiak et al., “2017 Chemical Industry Trends: Delivering profitable growth in a hypercompetitive, low-growth world,” strategy&, PwC, 8.

20. “Solvay,” Ellen MacArthur Foundation, <https://www.ellenmacarthurfoundation.org/about/partners/global/solvay>

Economics of mutality contribution

Confronting challenges within the chemicals sector necessitates not only a change in mindset, but also a new set of skills and tools. In response, Solvay’s management aims to tackle these challenges through internal innovation. The company has developed a Sustainable Portfolio Management (SPM) tool to help assess and map its products’ strengths and weaknesses. The tool aims to guide the company towards creating products that both provide sustainable solutions in the marketplace, as well as reduce environmental and social risks for the company. This is a win-win strategy designed to improve the environment and company performance.

In particular, the SPM tool plots Solvay’s products along a set of axes (see Figure 1).

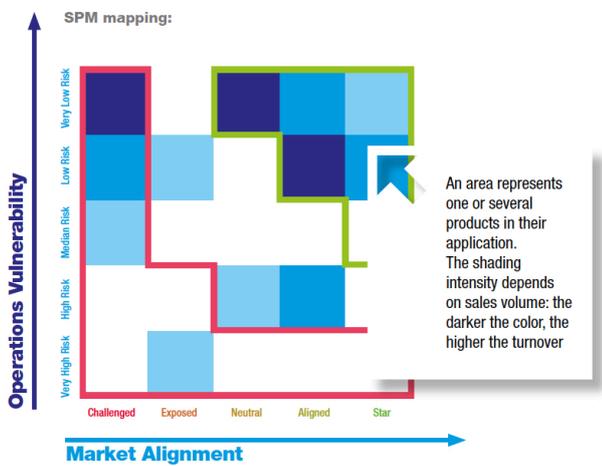


Figure 1: "SPM Mapping," Solvay, "Sustainable Portfolio Management Guide," 7.

The vertical axis shows the "environment manufacturing footprint and its correlated risks and opportunities."²¹ It uses a cradle-to-gate life cycle assessment, quantifying environmental footprints and using costs which reflect the cost to society. The total cost to society is then compared to the price of the product. These factors, specifically, help assess operations vulnerability.

The horizontal axis outlines the ways in which a product brings "benefits or faces challenges in a market perspective."²² This axis focuses especially on market alignment, helping to identify the extent to which "one product in a given application is part of the sustainable development solution or part of the problem from a consumer and market perspective."²³ It uses a questionnaire, based on qualitative, evidence-based collection of sustainability-related market signals. All the sustainability signals assessed using the questionnaire are run through a decision tree. This defines the exact positioning of the Product-Application Combination or PAC.

As Figure 2 details, first Solvay looks at Obstacles and Concerns (Steps 1 and 2). Any Obstacle identified will immediately rank the PAC as Challenged and anything raising Concern as Exposed. Solvay then considers the positive signals (Steps 3-5). If Solvay finds no negative and no particularly positive impacts, the PAC is categorised as Neutral (Step 3). If the PAC analysed demonstrates a direct, significant and measurable benefit to the market, which impacts positively on at least one of the sustainability benefits assessed, it is listed as Aligned (Step 4). If, in addition, Solvay registers double-digit growth potential in sales forecasts, the PAC is categorised as Star (Step 5).²⁴

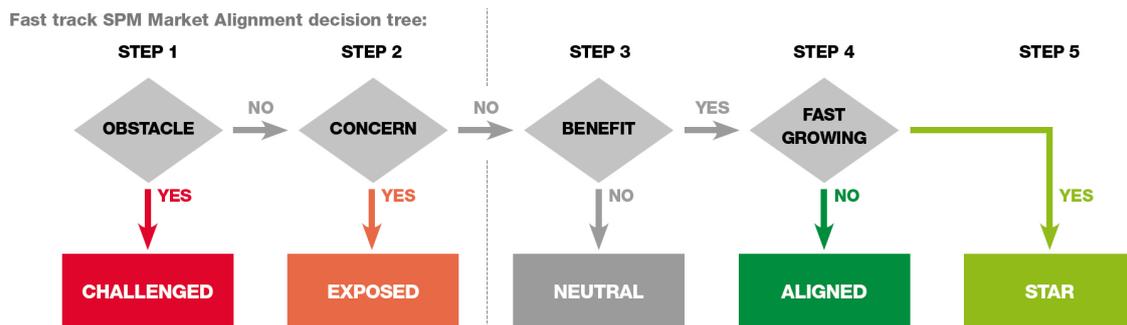


Figure 2: "Fast Track Market Alignment Decision Tree," Solvay, "Sustainable Portfolio Management Guide," 11.

21. "Sustainable Portfolio Management Guide: Driving long-term sustainable growth," Solvay, 4.
 22. "Sustainable Portfolio Management Guide: Driving long-term sustainable growth," Solvay, 4.
 23. "Sustainable Portfolio Management Guide: Driving long-term sustainable growth," Solvay, 7.
 24. "Sustainable Portfolio Management Guide," Solvay, 10.

Strategic decision-making

In creating a risk profile, the SPM tool has helped Solvay look to the future. With the advent of SPM, Solvay now has a means by which to assess its products and make strategic decisions accordingly. Solvay's Sustainable Development function manages the SPM methodology. Solvay deploys SPM in close cooperation with its Business Units and Functions in key processes: Strategy, Research and Innovation; Capital Expenditures; Marketing and Sales; and Mergers and Acquisitions. The SPM methodology is part of the Solvay Way framework and helps measure how well Global Business Units and Corporate Functions have integrated sustainability into their business practices.²⁵ Significantly, the SPM profile is an integral part of the strategic discussions between Global Business Units and the Executive Committee. Mergers and Acquisition projects are also evaluated using SPM to see if the investment is feasible in the light of Sustainable Portfolio targets. Investment decisions (capital expenditure above €10 million and acquisitions) made by the Executive Committee or the Board of Directors include a sustainability challenge that encompasses an exhaustive SPM analysis of the potential investment. All Research and Innovation projects are evaluated using SPM. Finally, in Marketing and Sales, SPM makes it possible to engage customers on fact-based sustainability topics aimed at creating value for both Solvay and the customer. These areas of mutual interest and concern include climate change action, renewable energy, recycling and air quality.

Performance

Over the past three years, Solvay's products have experienced significantly different annual revenue growth rates depending on whether customers and consumers are seeking out Solvay's products to match their unmet social or environmental needs.

Volume annual growth rate per SPM category showed that products in the "Solutions" category grew by +3%, whereas those in the "Challenges" category fell by a factor of -2%. As a note, these calculations were based on sales of the same product, same application, and same SPM ranking over the last three years, representing 44% of Group sales (out of which two-thirds came from volume growth).²⁶

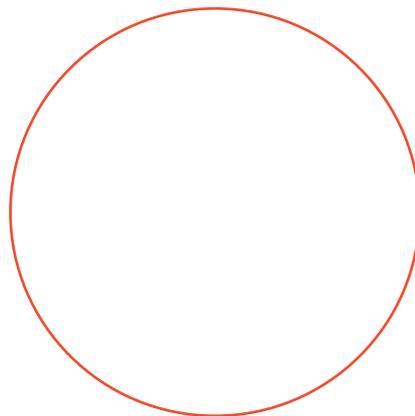
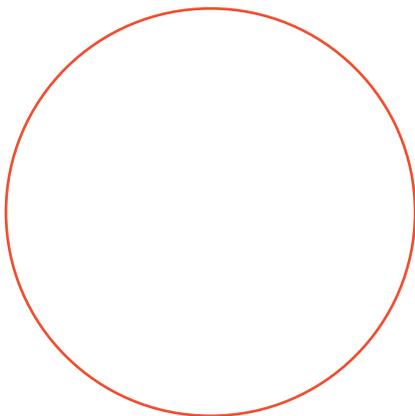
25. "Annual Integrated Report 2017" Solvay, <http://annualreports.solvay.com/2017/en/extra-financial-statements/sustainability-management/sustainable-portfolio-management.html>

26. "Annual Integrated Report 2017" Solvay.

Prognosis

Although long-term research remains to be done, at present it appears that the sustainable portfolio management (SPM) tool has been leading to good performance across environmental, social and financial metrics. Above all, SPM has become key to strategic decision-making within the company, informing Merger and Acquisition (M&A) strategy, decisions about investments, and improved customer engagement through marketing and sales.

Signalling its priorities, Solvay debuted its first “integrated” annual report in 2016. Differing from a traditional annual report, this document aimed to show the significance of non-financial or “extra-financial” forms of capital in furthering Solvay’s business objectives. Rather than relying exclusively on financial metrics, Solvay has factored sustainability into an assessment of the company’s overall performance. As the report demonstrates, combining various forms of capital represents a strategy that Solvay aims to showcase to the public. Financial and non-financial forms of capital, here, combine to present a holistic picture of Solvay’s business. As Solvay looks to the future, it aims to uncover strategies that will sustain the market leadership position for its products. At the same time, and relatedly, Solvay also aims to create sustainable strategies that will benefit the planet and help advance its business goals. By addressing the negative externalities within its ecosystem, Solvay aims to create a series of sustainable practices that will ensure the long-term viability and growth of its business.





Saïd Business School at the University of Oxford blends the best of new and old. We are a vibrant and innovative business school, but yet deeply embedded in an 800-year-old world-class university. We create programmes and ideas that have global impact. We educate people for successful business careers, and as a community seek to tackle world-scale problems. We deliver cutting-edge programmes and ground-breaking research that transform individuals, organisations, business practice, and society. We seek to be a world-class business school community, embedded in a world-class university, tackling world-scale problems.

Mars Catalyst and the Economics of Mutuality programme

Mars' approach to business has long since been guided by five principles – quality, responsibility, efficiency, freedom and mutuality. Together they inform and guide the actions of all Mars associates every day as they do their jobs and interface with the outside world.

The origins of the Mutuality principle go back to 1947 when Forest Mars Snr, who led and grew the business through the 1920's to the 1960's, wrote a letter to all 500 associates of the company that said "the sole purpose of the company is to create a mutuality of benefits with all stakeholders that the company touches; from suppliers to customers as well as governments and competitors and naturally associates and shareholders." This far-sighted thinking, that the company could only be successful if everyone around the company was being successful, has been a cornerstone of Mars' business philosophy ever since.

Mars has therefore always been interested in how it can best live up to this principle; and to find new ways of driving mutuality with all stakeholders it touches. This led to Mars'

leadership tasking its economic research unit, Catalyst, to start new work into unexplored territory for business; to identify critical drivers of mutuality and, using business pilots, to develop and test new metrics and management practices that can help boost mutuality in business situations. This work has been called the Economics of Mutuality.

This work has established promising links between increasing social, human and natural capital (that can be measured with simple & stable metrics) and a corresponding increase in financial capital – demonstrating how a company can do both good and well at scale. A number of pilots have now been completed in the areas of micro-distribution, the employees of Mars and in agricultural development that suggest that these relationships are true in different places and situations.

The Oxford Mars partnership

On the back of these promising findings, a multiyear partnership with Oxford University's Saïd Business School was established in 2014 to focus on the development of a business management theory for the Economics of Mutuality with corresponding teaching curriculum, new management practices, and case study research. The research programme has combined the pursuit of normative questions – what is

mutuality and how should it be enacted? – with grounded, ethnographic research on current thinking and practices. This has led to the development of field experiments and case studies examining how large corporate actors conceive of and pursue responsible business practices, and how these relate to their financial and social performance.

Mutuality in Business

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