

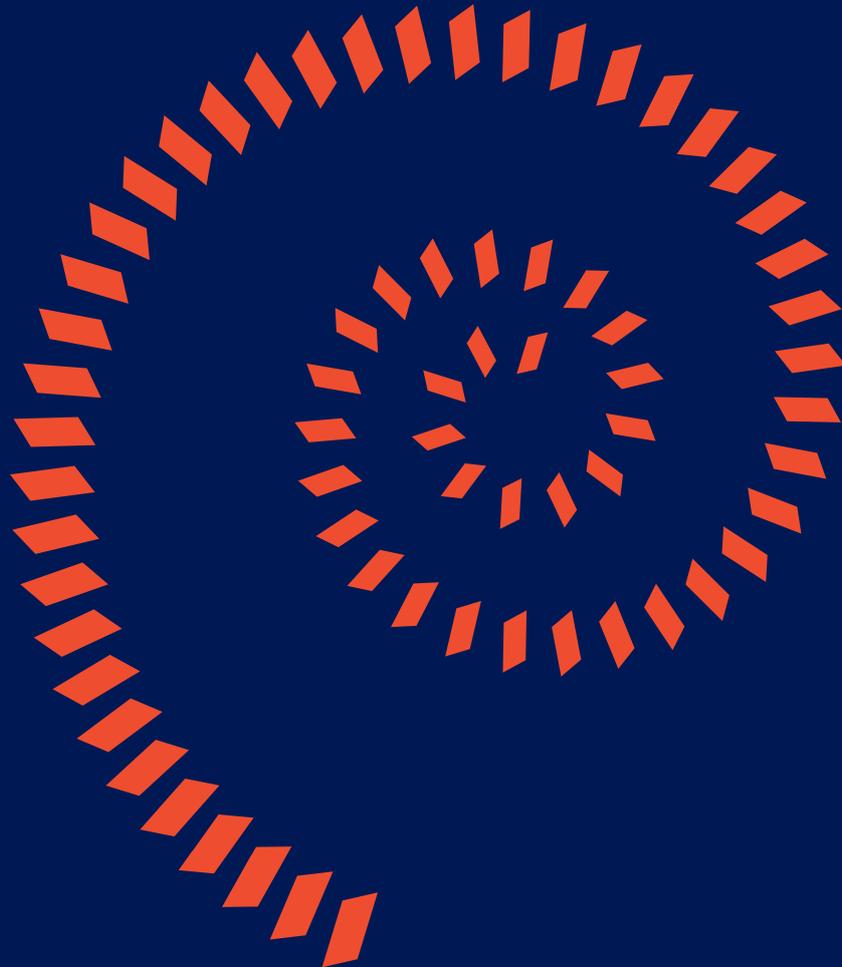


**MARS**



# BASF

An Economics of Mutuality case study



**Responsible Business Forum: The Economics of Mutuality**

17 May 2019

# BASF



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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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## About BASF

BASF is a multinational chemical company headquartered in Ludwigshafen, Germany. Founded more than 150 years ago, the company is the world's largest chemical company with 122,000 employees operating in more than 90 countries. In 2018, BASF posted €62.675 billion in sales. Over the past year, the company completed the acquisition of a range of businesses and assets from Bayer AG<sup>1</sup> and it signed an agreement with LetterOne to merge their respective oil and gas businesses into a joint venture operating under the name Wintershall DEA.<sup>2</sup> Following these transactions, BASF reorganized its activities in 12 divisions that are grouped into six segments (see Table 1).

**Table 1: BASF Business Segments**

Segments	Divisions
Chemicals	Petrochemicals, Intermediates
Materials	Performance Materials, Monomers
Industrial Solutions	Dispersions & Pigments, Performance Chemicals
Surface Technologies	Catalysts, Coatings, Construction Chemicals
Nutrition & Care	Care Chemicals, Nutrition & Health
Agricultural Solutions	Agricultural Solutions

BASF aspires to be the leading chemical company in the world by growing profitably and adding value to society. This ambition is underpinned by its corporate purpose:

**"We are driven by our purpose: We create chemistry for a sustainable future. We are convinced that we will only be successful in the long term if we create value for society and our innovations address all three dimensions of sustainability: the economic, environmental and social aspects."** – Dr Martin Brudermueller, CEO of BASF<sup>3</sup>

The conviction that long-term success requires excellent economic, environmental, and social performance also underpins BASF's corporate strategy, which aims to enhance customer focus and rests on six action areas:<sup>4</sup> 1.) Innovation: Leveraging research and development capabilities to accelerate the delivery of innovative products to customers; 2.) Sustainability: Embedding sustainability into decision-making processes and business models to add value to the environment, society, and economy; 3.) Operations: Ensuring safe, efficient, and reliable production processes to satisfy customer needs; 4) Digitalization: Employing digital technologies to enable chemistry-based innovations for growth markets such as electromobility; 5) Portfolio: Utilizing capital expenditures and innovations to achieve organic growth in business areas; 6) Employees: Providing employees with skills and tools to enable successful implementation of corporate strategy.

1 "BASF Closes Acquisition of Businesses and Assets from Bayer," *BASF*, 1 August 2018, <https://www.basf.com/global/en/media/news-releases/2018/08/p-18-285.html>

2 "BASF Closes Acquisition of Businesses and Assets from Bayer," *BASF*, 1 August 2018, <https://www.basf.com/global/en/media/news-releases/2018/08/p-18-285.html>

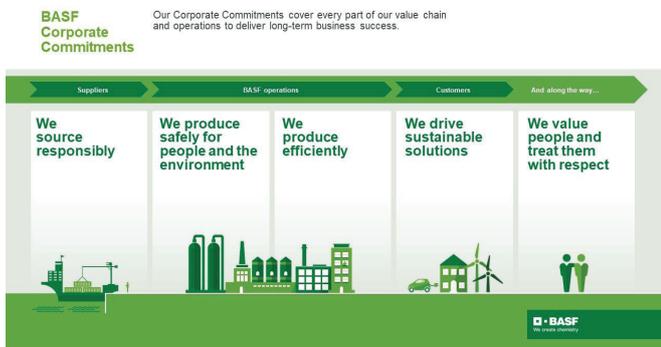
3 BASF (2019), p. 9

4 BASF (2019), p. 27

## Corporate Sustainability Strategy

The world is changing rapidly and global trends such as population growth, climate change, and digitalization pose diverse social and environmental challenges.<sup>5</sup> BASF is committed to helping solve these challenges by putting its corporate purpose into practice, that is, creating chemistry for a sustainable future. With Sustainability as one of its six strategic action fields, the company has defined five focus areas to address the challenges along its value chain<sup>6</sup> (see Figure 1).

Figure 1: BASF Sustainability Commitments



Source: BASF website<sup>7</sup>

These focus areas go beyond BASF’s factory gates and cover the entire value chain, including suppliers, operations, customers, and society at large. With regard to its suppliers, BASF collaborates with a large network of actors to ensure responsible conduct in its supply chain. Adopting a fundamentally collaborative approach, the company aims to realize mutually beneficial relationships with its suppliers:

**“Our partnerships with suppliers are based on mutual value creation, as well as a reliable supply of raw materials, technical goods and services at competitive prices. We work together in an open and transparent way to generate long-term benefits for both sides. In doing so, we create added value that goes above and beyond procurement alone, for example, by developing solutions to target market-specific customer requirements together with our suppliers.”<sup>8</sup>**

To ensure sustainability standards in its supply chain, BASF evaluates suppliers against social, environmental, and corporate governance requirements and the company

assists suppliers in carrying out these requirements through trainings. For both trainings and evaluations of suppliers, BASF collaborates extensively with industry initiatives and non-governmental organizations. For example, BASF is a founding member of the Together for Sustainability (TfS) initiative of leading chemical companies for the global standardization of supplier evaluations and auditing. These measures are directed towards strengthening the sustainability performance not only in BASF’s own operations but in its wider supply chain ecosystem.

As for its customers, BASF is committed to enhancing the sustainability performance of its product portfolio. As a chemical company, many of BASF’s products serve as inputs into production processes in other industries. Steering its product portfolio towards more sustainability can unlock positive ripple effects for its customer base and society at large. Based on its proprietary Sustainable Solution Steering<sup>9</sup> approach, BASF systematically assesses its products against sustainability criteria and groups products into four categories:

Table 2: BASF Sustainable Solution Steering Categories.

Accelerator	Substantial sustainability contribution in the value chain
Performer	Meets basic sustainability standards on the market
Transitioner	Specific sustainability issues which are being actively addressed
Challenged	Significant sustainability concern identified and action plan in development

This systematic process for evaluating the sustainability performance of its product portfolio enables BASF to integrate sustainability into Research & Development, customer support, and strategic processes. The company aims to generate sales of €22 billion with Accelerator products by 2025. By the end of 2018, BASF had assessed 96.5% of its entire relevant portfolio of more than 60,000 specific product applications (accounting for €56.2 billion in sales) with the Sustainable Solution Steering method.<sup>10</sup> Having made the methodology publicly available in 2018, the Sustainable Solution Steering approach is also used to engage and collaborate with customers. For example, BioMar, a supplier of fish feed and one of BASF’s customers,

5 BASF (2018a)  
 6 BASF (2019), p. 36  
 7 “Sustainability,” BASF, <https://www.basf.com/global/en/who-we-are/sustainability.html>  
 8 BASF (2019), p. 90  
 9 BASF (2018b)  
 10 BASF (2019), p. 37

is applying the Sustainable Solution Steering method to assess its own product portfolio and supply chain.<sup>11</sup>

In summary, BASF cooperates with a large network of suppliers, non-governmental organizations, and customers to enhance the sustainability performance along its entire value chain. With sustainability as one of its six strategic action fields, this ambition is firmly anchored in BASF's corporate strategy and is further broken down into five focus areas that target its suppliers, operations, and customers. In addressing impacts beyond its own operations, the company recognizes that "[b]usiness success tomorrow means creating value for the environment and society, not just making a profit."<sup>12</sup> The company thus strives to improve its positive contributions to society while minimizing its negative effects. To systematically assess the economic, environmental, and social impacts of its business activities along the value chain, BASF has developed a broad range of non-financial measurement approaches.

## Integration of Non-financial Measurement

In line with its corporate purpose to create chemistry for a sustainable future, BASF has defined a number of non-financial key performance indicators that measure the company's progress against its strategic objectives. As part of a strategy update in November 2018, BASF introduced a new set non-financial targets<sup>13</sup> that apply from 2019 onwards and replace previous goals. Each of these targets addresses one of BASF's sustainability focus areas and together they cover the whole value chain, ranging from suppliers to BASF's operations to customers (See table 3).

In addition to these non-financial targets, BASF has developed a set of measurement and valuation methods to measure and manage its sustainability performance. These methods range from specific applications for calculating product carbon footprints to comprehensive assessment methods that quantify BASF's contribution to society:

- **Product Carbon Footprint:** determines the total sum of greenhouse gas emissions generated by a product over its whole life cycle (production, use, disposal).
- **AgBalance:** a comprehensive method to assess sustainability along the food value chain by evaluating ecological (e.g., soil quality, biodiversity, water use), social (e.g., farmers, consumers) and economic factors (e.g., macro-economic dynamics).
- **Eco-Efficiency Analysis:** evaluates environmental impacts and cost-effectiveness of products over their whole life cycle (raw materials sourcing, production, use, disposal).

- **SEEBALANCE:** complements the analysis of economic and environmental factors (cf. Eco-Efficiency Analysis) with a social impact assessment of products.
- **Value-to-Society:** enables a monetary assessments of economic, ecological, and social impacts of business activities along the value chain.

**Table 3: BASF's Non-Financial Targets<sup>14</sup>**

Sustainability focus area	Target
We source responsibly	Cover 90% of our relevant spending with sustainability evaluations by 2025, and have 80% of our suppliers improve their sustainability performance upon re-evaluation
We produce safely for people and the environment	Grow CO <sub>2</sub> -neutrally until 2030 Reduce the worldwide lost-time injury rate per 200,000 working hours to ≤ 0.1 by 2025 Reduce worldwide process safety incidents per 200,000 working hours to ≤ 0.1 by 2025 Introduce sustainable water management at all production sites in water stress areas and at all Verbund sites by 2030
We produce efficiently	
We drive sustainable solutions	Achieve €22 billion in Accelerator sales by 2025
We value people and treat them with respect	More than 80% of our employees feel that at BASF they can thrive and perform at their best Increase the proportion of women in leadership positions with disciplinary responsibility to 22–24% by 2021

### The Value-to-Society Methodology

Although all of BASF's sustainability approaches provide valuable analytical insights into the company's sustainability performance, the Value-to-Society methodology goes further in not only measuring corporate outputs, but also facilitating a quantitative assessment of how these outputs translate

<sup>11</sup> Christine Haupt, "Helping Customers assess their portfolio with BASF's Sustainable Solutions Steering Methodology," BASF, 17 April 2018, <https://www.basf.com/global/en/media/news-releases/2018/04/p-18-165.html>

<sup>12</sup> BASF (2019), p. 36

<sup>13</sup> BASF (2019), p. 26

<sup>14</sup> BASF (2019), p. 26

into outcomes, impacts, and, ultimately, societal benefits and costs. By enabling the measurement of BASF’s value creation for the economy, society, and environment, the Value-to-Society method is a tool for evaluating how successfully the company operationalizes its purpose. The methodological key innovation is the systematic measurement and valuation of the financial and non-financial external effects of BASF’s business activities in a common monetary unit. Through its focus on the societal impacts of business activities, the Value-to-Society method moves beyond established corporate performance measures that are largely focused on immediate business inputs and outputs (see Figure 2).

The Value-to-Society approach was developed together with PwC and builds on PwC’s Total Impact Management and Measurement (TIMM) method<sup>16</sup> (see Box on next page). BASF’s Value-to-Society approach is comprised of two steps:

1. *Impact measurement*: It is assumed that the impacts on society are generated by BASF’s own operations and enabled along its supply chain and customer industries through the company’s procurement and sales activities. To quantify the impacts generated by its own operations, BASF uses primary data that is collected internally in financial accounting systems, human resource and environmental health & safety databases, and dedicated surveys. Data from these sources is then aggregated at the corporate level. For calculating the impacts enabled in its supply chain and customer industries, the

company utilizes secondary industry data and input-output modelling to derive indicative impact results for its suppliers and customers.

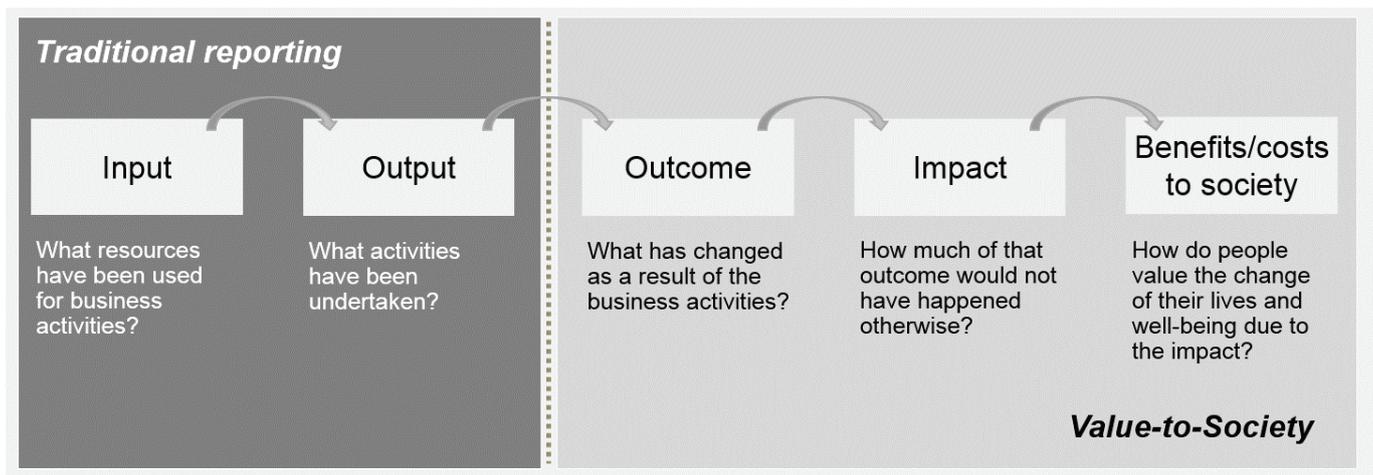
2. *Monetary valuation*: The identified impacts are subsequently quantified by ascribing monetary values (measured in €) that reflect the benefits and costs to society associated with each underlying business activity. Impacts which are already captured in monetary values, e.g., the payment of taxes or wages, are multiplied by country-specific purchasing power parity factors<sup>17</sup> to account for geographical differences in prices. Where impacts are not readily available in financial terms, country-specific monetary valuation coefficients<sup>18</sup> are applied to value, e.g., the impact of water consumption in China.

**PwC – Total Impact Measurement and Management**

PwC provides professional services in assurance, tax, and advisory to clients from a wide variety of sectors. PwC’s over 250K employees extend across offices in over 158 countries. The PwC network services clients from 86% of the global Fortune 500 companies and over 100K businesses throughout the world.

PwC introduced the Total Impact Measurement and Management (TIMM) framework to help businesses

**Figure 2: Comparison between traditional reporting and BASF’s Value-to-Society approach.**



Source: BASF website

15 “We Create Value,” BASF, <https://www.basf.com/global/en/who-we-are/sustainability/management-and-instruments/quantifying-sustainability/we-create-value.html>  
 16 “Total Impact Measurement & Management,” PwC, <https://www.pwc.com/gx/en/services/sustainability/total-impact-measurement-management.html>  
 17 Sourced from the World Bank.  
 18 The valuation coefficients are sourced from publicly-available publications from governments, intergovernmental organizations, scientific studies, and PwC’s Total Impact Management and Measurement method.

assess factors beyond financials. In response to apparent changes in the wider business context, PwC has increasingly emphasized the role of “good growth,” one that is real, inclusive, responsible, and lasting, rather than only of short-term gain. The TIMM framework aids clients in identifying areas of risk and opportunity through attention to the holistic picture. The framework focuses on outcomes and impacts, which lead to the subsequent ability to quantify and monetize impacts, and ultimately to better informed decision-making through evaluating trade-offs. As part of a strategy of long-term success, PwC would like to change the language of decision making to include the social, environmental, and economic, and fiscal dimensions.

The TIMM framework is flexible to include all material societal impacts of a business, under four areas:

- Social – e.g., health, education, livelihoods, wellbeing
- Environmental – e.g., GHG emissions, water consumption, waste
- Tax – e.g., people, profit, production, property and planet taxes
- Economic – e.g., contributions to GDP

social factors having predominantly positive impacts and environmental factors having negative impacts. The latest results for 2017 are shown below.

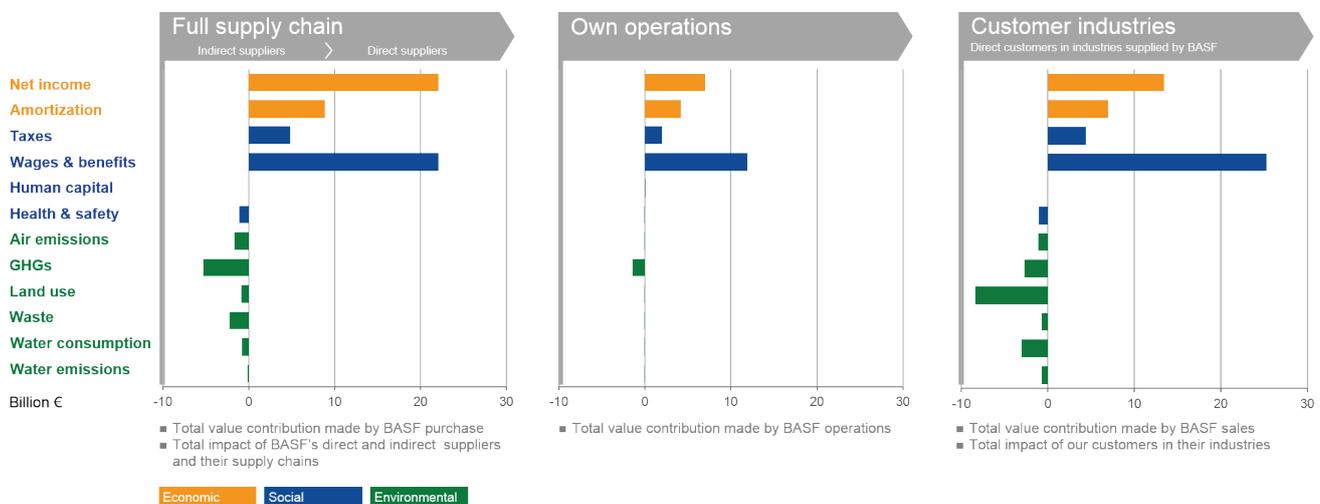
In summary, the Value-to-Society method is an innovative measurement approach that goes beyond established corporate performance measures focused on immediate inputs and outputs and captures corporate impacts on society in a common, monetary unit. According to BASF, the Value-to-Society approach provides the following benefits:<sup>20</sup>

- Perspective change: Offering a macro-societal view on the performance of the company
- Transparency: Mapping our own impacts and our partners along the value chain
- Materiality: Comparing financial and non-financial impacts in a monetary language
- Interdependencies: Better understanding of correlations between the different capitals
- Tangibility: Demonstrating non-financial impacts in monetary terms to improve communication

By shifting from an inward-looking, organization-centred perspective to an outward-looking perspective that measures organizational impacts on society, the Value-to-Society approach provides a valuable tool for evaluating BASF’s progress on one of its key commitments, that is, creating value for society.

BASF has applied the Value-to-Society approach since 2013 and yearly results are available on the company’s website.<sup>19</sup> According to BASF’s calculations, its contributions to society have been net positive in every year, with economic and

Figure 3: Results of BASF’s Value-to-Society assessment 2017.



19 “We Create Value,” BASF, <https://www.basf.com/global/en/who-we-are/sustainability/management-and-instruments/quantifying-sustainability/we-create-value.html>

20 BASF (2018c), p. 1

## Impact on Decision Making

To execute its sustainability strategy effectively, BASF has integrated sustainability into its organizational and management systems.<sup>21</sup> The Corporate Sustainability Board (CSB) is the central steering committee that monitors the implementation of the sustainability strategy and defines strategic sustainability targets. Chaired by a member of the Board of Executive Directors, the committee includes heads of business, corporate, functional, and regional units. The CSB is complemented by an independent Stakeholder Advisory Council, which is comprised of external experts and meets annually with BASF's Board of Executive Directors to challenge and advance the corporate sustainability management. On an operational level, the Sustainability Core Team supports the CSB with implementing the sustainability strategy and supervising sustainability initiatives and performance measures. In addition, BASF has introduced Sustainability Communities that are comprised of cross-divisional and cross-regional teams and support the implementation of the sustainability strategy in their respective businesses. Finally, a Sustainability Strategy team acts in an advisory role by assessing risks and opportunities, evaluating products and processes, and developing tailored strategies on a business unit level.

Facilitated by this management structure, BASF systematically assesses sustainability criteria in resource allocation processes, including decisions on merger and acquisition projects, research and development projects, and investments in plants and equipment.<sup>22</sup> For example, investment decisions on new production sites take into account a wide range of factors, including questions such as: How will the demographic structure change over the next thirty years? Will there be significant fluctuations in water availability? What is the likelihood of increased frequencies of severe weather events? Considering such questions is a mandatory element of the investment process at BASF and expert statements are submitted to an investment committee to provide relevant information on issues ranging from health and safety aspects to environmental and social conditions. These sustainability factors significantly influence the decision-making process and can result in the rejection of investment proposals.

## Prognosis

BASF is working on integrating non-financial management and measurement tools into its management accounting. These efforts include, amongst others, embedding the Sustainable Solution Steering approach, which evaluates the sustainability credentials of BASF's product portfolio, into research and development as well as merger and acquisition projects.<sup>23</sup> This integration is key for meeting the strategic non-financial target of achieving €22 billion in Accelerator sales by 2025. Moreover, BASF considers integrating non-financial targets into its internal management control processes, e.g., by including non-financial targets into its target agreement process, which aligns individual employee targets with BASF's targets.<sup>24</sup> Similarly, the company works on incorporating non-financial measurement tools such as Value-to-Society into internal business processes, since it can support strategic assessments and decisions by providing a comprehensive analysis of the societal impacts of business units or production sites.<sup>25</sup>

There remain, however, a number of challenges in integrating non-financial measurement approaches into management and decision-making processes: Firstly, non-financial data is often less robust and less frequently available than financial data; e.g., financial performance data is available in sufficient granularity on a weekly basis, whereas non-financial data such as greenhouse gas emissions data is only available at longer intervals, if at all. Secondly, and related to the previous point, the integration of non-financial data into regular accounting systems poses technical challenges, i.e., there is a lack of adequate information technology solutions to handle financial and non-financial data in an integrated manner. Thirdly, methods for comparing economic, environmental, and social factors – and establishing causal relationships among them – are at an early stage, and more work on valuing non-financial corporate performance and impacts is necessary.

With its Value-to-Society approach, BASF has pioneered impact valuation approaches in the chemical industry and it is committed to further developing the methodology. To this end, BASF collaborates with other companies in cross-sectoral initiatives such as the Impact Valuation Roundtable<sup>26</sup> to share best practices and advance knowledge on measuring impacts of companies on the economy, society, and environment. Although BASF's non-financial measurement tools provide innovative performance metrics for assessing how the company is creating value for society, the integration of these non-financial measurement innovations into business and management accounting processes remains a challenge.

21 "Structure," BASF, <https://www.basf.com/global/en/who-we-are/sustainability/management-and-instruments/structure-basf.html>

22 BASF (2019), p. 36

23 Ibid., p. 37

24 Ibid., p. 30

25 Ibid., p. 37

26 "Operationalizing Impact Valuation: Experiences and Recommendations by Participants of the Impact Valuation Roundtable," March 2017, [https://docs.wbcsd.org/2017/05/IVR\\_Impact\\_Valuation\\_White\\_Paper.pdf](https://docs.wbcsd.org/2017/05/IVR_Impact_Valuation_White_Paper.pdf)

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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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