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Strategy and Performance Management at DSM

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It was April 2003, and Hans Dijkman, Business Group Director of DSM Melamine, had just attended a Business Strategy Dialogue (BSD) meeting. DSM Melamine was the global leader in the manufacture and marketing of melamine, a chemical compound used to make highly resistant surfaces, supplying almost one third of world demand. However, Dijkman and his team faced significant challenges in terms of cost competitiveness, aggressive competition, market maturity in Europe and the US, and emerging growth, particularly in China.

Business Strategy Dialogues had been introduced at DSM in the mid-90s to help structure the firm's strategy development process. The BSD process consisted of five distinct phases resulting in a thorough review of the industry, market trends, customer needs, competition and the position of the relevant business group. In 2001, as part of its new Value Based Business Steering (VBBS) system, DSM had also started to align its strategic planning and financial management processes by introducing Strategic Value Contracts. These contracts contained both performance indicators to monitor the implementation of strategy, and value drivers to measure economic value-creation.

BSDs were initiated whenever either the business or corporate felt the need, on average every three years. DSM Melamine was currently performing its fourth BSD at the request of Dijkman who felt that the current 'actively maintain' strategy would soon fail to achieve the financial performance targeted in his Strategic Value Contract.

Management of DSM Melamine had been discussing the possibility of pursuing a 'grow and build' strategy. They felt that they had reached the limits of cost reduction and that the only way to grow for DSM Melamine was by investing in new melamine plants. Dijkman, however, doubted whether corporate management would agree with this change. Would they emphasize the corporate strategy of becoming a specialties company and thus be reluctant to invest heavily in a commodity such as melamine, or would they let VBBS principles prevail and let themselves be swayed by Melamine's financial track record?

From State Mines to Specialty Company

DSM origins go back to 1902 when the Dutch government founded Dutch State Mines (DSM) as a state-owned coal-mining company. In the 100 years of its existence DSM reinvented itself several times from what was originally a coal mining company, first, as a petrochemicals business, then a commodity chemicals business, and more recently a specialties company.

DSM became a public company in 1989. In 1993, Simon de Bree was appointed CEO and under his leadership DSM continued working on a portfolio shift towards advanced chemical and biotechnical products for the life sciences industry and performance materials. These activities were characterized by good earnings, quality, and strong growth. When de Bree stepped down in July 1999 he was hailed for having reduced the company's exposure to cyclicality and improved its structure by shifting towards a larger share of value-added products. He left the company in good shape both financially and portfolio-wise. Peter Elverding, the board member in charge of integrating Gist Brocades at that time, succeeded de Bree as CEO. Under his guidance, DSM was able to complete its strategic transformation into a specialty chemical company.

By 2003, the company had more than 20,000 employees spread across 200 offices and production sites in 40 countries. It was the leading producer of life science products, performance materials and industrial chemicals, and had a turnover of €6 billion in 2002 (see Exhibit 1 for key figures). Its headquarters were located in Heerlen, in the south of the Netherlands, close to the site of the former coal-mines. In 2002, on the 100th anniversary of its foundation, DSM was given royal status and re-named Royal DSM.

Vision 2005: "Focus and Value Strategy"

One year after his appointment, Elverding announced the outcome of the Corporate Strategy Dialogue conducted in 2000 and labeled 'Vision 2005: Focus and Value'. With the implementation of Vision 2005, DSM would complete its strategic transformation into a specialty chemicals company. Elverding announced that DSM was planning to spin off its petrochemical business. This decision was not without emotion as the petrochemicals business was regarded by many as the 'roots' of the chemical company.

In addition, Elverding announced ambitious targets of increasing annual sales by approximately 60% to €10 billion by 2005, despite the planned withdrawal from the petrochemicals business, which provided one-third of the company's turnover in 2000. At least 80% of sales would have to be generated by specialty products; the rest would come from industrial chemicals, such as melamine and caprolactam, where DSM was already the global leader. Acquisitions would account for half of the sales increase and the remainder would be achieved through organic growth, roughly 6% per year.

Besides focusing on a global leadership position in the specialties business, Vision 2005 also addressed DSM's desire to increase its market capitalization as management felt that the company's stock was undervalued. There were several reasons for this underperformance, including concerns about DSM's portfolio breadth relative to the size of the company, but management believed that the main reason was the market's perception that DSM still was a cyclical stock with predominantly a commodity profile. Management hoped that the implementation of Vision 2005 would turn DSM into a real specialties company, leading to a re-rating and appreciation of its market capitalization. A major part of the Vision 2005 strategy was accomplished when DSM successfully sold its petrochemicals business to Saudi Arabian Basic Industry Corp (SABIC) in June 2002. With a total net consideration of €2.25 billion, this transaction was the largest single deal in DSM's history. In a separate transaction, DSM sold its entitlement to an annual portion of the net profits of EBN[1] to the Dutch government in December 2001. These transactions created a solid cash cushion of over €3 billion to fund the expansion of the specialty portfolio targeted in Vision 2005. To protect its cash trove from unwanted parties, and to keep the funds and transformation process transparent, DSM took the unusual step of placing the revenues from the disposals of EBN and the petrochemicals business into a new subsidiary, DSM Vision 2005 BV. The use of these resources required approval by the governing board of the foundation, which consisted of three members of DSM's managing board and three members of the supervisory board. After the divestment of petrochemicals, DSM had become a substantially smaller company, but with a portfolio that matched the desired profile. Specialties now represented well over two-thirds of total sales, justifying a reclassification from 'bulk commodity player' to 'specialty player'.

In February 2003, Elverding was able to announce the next step in implementing Vision 2005 as DSM signed a contract to acquire Hoffman-La Roche's vitamins, carotenoids and fine chemicals business for €1.75 billion, the largest acquisition it had ever made.[2] The acquisition would help restore its total sales, which had been reduced to less than €6 billion as a result of the divestment of petrochemicals, to over €8 billion. More importantly, it would boost the specialty part of DSM's portfolio and help achieve the goal of 80% of sales in specialties two years ahead of the scheduled date (2005). Various analysts were skeptical about the acquisition, however, because of the price pressure and the low growth prospects of the business.

The DSM Organization

DSM had a decentralized organizational structure built around 15 business groups (consisting of various business units) that were empowered to execute all business functions. The business groups were grouped into three strategic clusters, mainly for reporting purposes. (see Exhibit 2). DSM believed that this structure ensured a flexible, efficient and fast response to market changes. The business group directors reported directly to the managing board of directors. Staff departments at corporate level supported the managing board and the business groups. The business groups contracted the services of a number of shared service departments, DSM Research, and intergroup product supplies at market prices.

The managing board of directors was a collegial board with five members. It was responsible for making decisions about the company's strategy, its portfolio policy, and the deployment of resources. Most board

members were ‘board delegates’ for various business groups. The top management team consisted of the 15 business group directors and the corporate vice-presidents reporting to the board. The third layer of management consisted of 300 senior executives. The top 300 were considered ‘corporate property’; they were on one central payroll and Corporate had the authority to relocate these executives within DSM if they felt the need to do so.

DSM’s corporate culture was traditionally informal and consensus-oriented, as is the case in many Dutch companies. Long-standing careers at DSM were encouraged. However, because DSM had been a cyclical company where 90% of the business results were the outcome of external circumstances that could not be influenced, DSM historically did not have a strong accountability culture.

The Strategic Planning Process at DSM

Until the early 1990s, DSM had operated a traditional strategic planning process with planning and budget cycles taking place throughout the year However, DSM management was no longer satisfied with this process. They felt that Corporate Planning owned the strategic planning process and that it served too many different purposes (corporate, divisional, business and functional strategy, internal and external). The process had become routine over time and had degenerated into a ‘numbers exercise’. The link between strategy and performance was not clear, but more importantly, top management felt that the quality of strategy development was poor. Most of the strategies focused mainly on cost reduction. The primary beneficiary of such strategies was not the company but its customers, since most of the cost savings were typically passed on to them through price reductions. To enhance the quality of the strategy development process, a new approach called the Business Strategy Dialogue (BSD) was introduced in 1992. These BSDs led to Corporate Strategy Dialogues (CSDs) which were intended to improve the corporate strategy development process.

Corporate Strategy Dialogue

DSM’s strategy development process started with an extensive study of the current situation and the outlook for the company for the next few years. The Corporate Strategy Dialogue was held every three years with a team of 40-50 company-wide executives. It was aimed at developing a long-term corporate strategy, with evaluations and choices being made about portfolio composition, investment priorities and geographical spread. The whole process took six to nine months and was wide-ranging, involving intensive discussions in DSM Corporate top meetings, with the supervisory board and the Central Works Council. The end product was a shortlist of corporate top priorities.

The first CSD was performed in 1994, followed by another in 1997 and a third in 2000. Besides new themes that were defined in each CSD, a number of common themes had consistently been part of the CSD, such as profitable growth, leadership position, coherent portfolio, reduction of cyclicality, growth markets, reduction of dollar-sensitivity, geographical spread, and being an attractive employer.

Once the priorities were set, the corporate strategic plan was to be implemented over the next two to three years. Focusing all energy on realizing its corporate priorities had allowed DSM to achieve most of them before their target dates.

Business Strategy Dialogue

The businesses were responsible for developing and implementing their (approved) Business Strategy Dialogues (BSDs). The purpose of a BSD was to provide a consistent method and terminology to help structure the strategy development process and improve its quality. BSDs were mostly initiated by the business groups themselves, but were sometimes requested by corporate. They occurred at regular intervals of three years on average.

The BSD process consisted of five phases with several steps within each phase. The five phases were: Characterizing the Business Situation; Analyzing the Business System at Macro Level; Analyzing the Business System at Micro Level; Options and Strategic Choice and Action Planning and Performance Measurement (see Exhibit 3). But before a BSD could be started, some preparatory work had to be done.

Starting up

One of the first things to be done was to identify a facilitator and a challenger. To facilitate the implementation of the BSDs, Corporate had trained around 30 "facilitators" to support the business teams in its creative thinking process. They were selected from the top 350 executives and asked by the Chairman of DSM to become a facilitator. The task of a facilitator was to prepare the strategy development process with the business group director by defining the scope of the exercise, discussing the composition of the core team, examining the time schedule, drafting a list of important strategic issues, and appointing a project manager who was responsible for the operational part of the strategy development process. The most important role of the facilitator, however, was to make sure that the BSD led to real strategic options and a real choice, as expressed by Marthijn Jansen, facilitator:

> *"The role of the facilitator is to make sure that the BSD focuses on the right issues, that in the "options phase" the conversation diverges, and that in the defining of the KPIs phase, everything converges to a clear path and a clear view of the implications of the choices made."*

In addition to a facilitator, a 'challenger' was selected. The challenger had an important role as he/she had to question the BSD team about the assumptions, analyses and conclusions it made. Challengers were chosen from the top 100 managers within DSM. In addition to the internal challenger, a business group could also ask 'outsiders' to challenge them on specific issues. These outsiders - often (technology) specialists - also shared their knowledge.

The core team in the BSD typically consisted of the complete business management team supported by specialists from further down the organization. They were advised not to have more than 10 to 12 people as management felt that larger groups did not allow for effective discussion and hampered the creativity of the process. In large or complicated businesses subgroups were formed to address specific questions. The BSD process consisted of workshops and discussion sessions led by the facilitator. Input and participation by all concerned was considered very important.

Characterizing the Business Situation

The objective of this phase was to collect and structure the necessary information to be used as input to the BSD. The Group provided the businesses with a strategic data checklist of the information that might be useful for the BSD such as environmental and market analysis, competitor assessments and analysis of manufacturing, R&D, HRM, finance and processes. Data were supplied by functional discipline. In addition to data gathering, the checklist offered a useful format for summarizing and presenting the information. The data set was structured in accordance with questions such as:

- What business are you competing in?
- Which other businesses and products are you competing with?
- How attractive is the industry in terms of growth and profitability?
- What is your competitive position (benchmarks)?
- What are the dynamics? What trends can be expected in your business system?

Practice showed that this phase could take two to four months. Corporate management emphasized that the businesses should not view this information-gathering phase as a checklist exercise but rather approach it from an 'issue-driven' angle.

Analyzing the Business System at Macro Level

In this phase, which took approximately two days, the industry in which the business unit competed was analyzed from the outside in, based on Porter's Five Forces model. The discussion focused on the examination of the value added in the business chain, the customers, the competitors, the business dynamics and the drivers of the industry. An important step was the analysis of the different generic strategies followed by key competitors. Understanding generic strategies forced the businesses to categorize the different ways in which a business could compete in the industry. A strategic group was defined as a cluster of companies following the same generic strategy. The outcome of this phase included a basic understanding of the 'rules of the game', i.e. the strategic groups in which the business might compete and a preliminary view of the key success factors (KSFs) that must be met in order to compete successfully within a certain strategic group.

Analyzing the Business System at Micro Level

In this phase the organization was analyzed from the inside out, by looking at the internal process. Important tools for the analysis of the internal value chain were market segmentation, activity-based costing, internal or (preferably) external benchmarking of functions, and assessment of the technological position. The conclusions of the micro-discussion included an analysis of the business unit's capabilities - both strengths and weaknesses - to compete in its strategic group. This phase took on average two days.

Options and Strategic Choice

After having assessed the competitive environment and the business unit's capabilities to compete successfully in its environment, the outcome of both steps were compared, i.e. internal capabilities were compared with the list of KSFs (see Exhibit 4 for an example of DSM Melamine). This allowed the business to make a choice as to the strategic group in which it wanted to compete. Furthermore, it allowed the business to verify whether it really could serve the selected market segments and determine what steps were necessary to achieve or sustain leadership within the strategic group.

Action Planning and Performance Measurement

Once the strategic choice had been made, the strategy had to be translated into an action plan and linked to performance measurement. Based on the strategic mission and objectives of the business unit a limited number of performance indicators that were important to the corresponding KSFs were selected. Performance indicators monitored the implementation of the strategy and were the measurable part of the KSFs, allowing comparisons with competitors and performance monitoring over time. Examples of performance indicators included market share, pipeline of products, quality, customer satisfaction, and cost per unit. The objective of performance measurement was to provide periodic information on the progress made toward the defined targets for each performance indicator. Furthermore, it helped management set objectives and target levels for the next period.

Annual Strategic Review (ASR)

The Annual Strategic Review (ASR) was performed by each business group, and comprised a progress report on the implementation of the BSD, an update or reassessment of major business risks, an updated sensitivity analysis and updated financial projections. The ASRs of the business groups constituted the building blocks of the corporate ASR whose purpose was to monitor the execution of the Corporate Strategy Dialogue. An important element in the review was the confirmation that the chosen strategy in the BSD was still valid and that the implementation was on track. Therefore, the validity of the main assumptions on which the strategy was based had to be checked and the consequences of changes in the business environment for the strategy evaluated.

Benefits and Challenges of the BSD System

Benefits

In 2000, six years after its implementation, the BSD had become developing business strategy. DSM management was pleased strategy formulation and the team-building aspects. One business group director coming from outside DSM commented:

> *"The strategic planning process is very good at DSM. It is a robust and effective process. And it is a living system, contrary to many other companies where people just 'feed' the system."*

Many people valued the 'challenger' part of the BSD, where someone from outside the business group challenged the assumptions and outcomes of the BSD. One business group director recalled:

> *"Corporate said to us: 'The BSD is nice but not rigorous enough. Come back when you have really looked at the intrinsic value of each market segment. Not at macro level, but at market segment level.' This was very good because it forced us to get a real grounding in segments."*

People agreed that the BSD process greatly enhanced the insights and understanding of the business. In addition, it forced alignment, both across functions in the business unit and with respect to the strategy. Furthermore, people felt that the BSD gave legitimacy to initiate changes later on when the business got to the implementation phase. Another big advantage of the process was that strategy development became a three-yearly process with just an annual update. One top executive of corporate planning commented:

> *"Performing a BSD is a lot of work. But once you are done, you are done for two to three years."*

Challenges

The final phase of the BSD – translating strategy into performance measurement – remained a challenge. Hein Schreuder, Corporate Vice President Strategy & Development, expressed his concern:

> *"DSM invests heavily in a good strategic diagnosis, but the ultimate focus should be on delivery."*

Although DSM had improved the quality of strategic thinking in the planning process, the question remained indeed how to link it with execution.

Value Based Business Steering

In 2000, Henk van Dalen, Director of the DSM Polyethylenes business group, was appointed to the managing board. He believed that the necessary step to implement Vision 2005 and its promise for performance was a more intense focus on value-creation in the businesses. According to the newly introduced Value-Based-Business Steering (VBBS) concept, the overall target for DSM was to create value for all of its stakeholders, i.e. shareholders, employees, customers, and society.

DSM approached VBBS from three different angles. The first was accountability as the basis for financial control. The second was alignment of DSM's strategic business planning processes to materialize its promise for performance. The third was the introduction of new financial operating metrics that translated Vision 2005 and BSDs into economic value terms. DSM decided to start with the third angle because it had the biggest impact on the organization and was a first step in aligning strategy with performance measurement. As a result, VBBS was strongly driven by the finance department – at least initially.

New Financial Business Steering Metrics

A new set of performance metrics was developed for internally measuring and managing financial performance in terms of value-creation (see Appendix 1). Cash Flow Return on Investment (CFROI) became DSM's new yardstick for measuring the performance of its businesses. Contrary to other value-based management companies, DSM decided to use CFROI only for internal reporting and financial

performance measurement, while ROI remained the performance measure for external reporting. A reason for this decision was that DSM felt that the complex CFROI calculations were difficult to explain to investors. Furthermore, DSM first wanted to see if the new metrics would work.

Total Shareholder Return was an important external performance indicator related to value- creation for DSM as a whole, but could not be directly linked to the performance of individual business groups. DSM chose to introduce Cash Value Added (CVA) to translate value- creation from a capital market point of view into an objective internal DSM measure. CVA represented the cash surplus generated ("value realized") by a business once all capital providers had been compensated. To determine the "value created" by a business, DSM measured the increase in value (delta CVA) from year to year. Because DSM was a decentralized company, the group did not impose delta CVA targets; instead, target setting was done in a bottom-up fashion. To achieve a positive delta CVA and thus create value, a business could work on two key value drivers: by improving CFROI or by investing in profitable projects.

Investments were evaluated against the Internal Rate of Return (IRR) hurdle, i.e. the before-tax weighted average cost of capital (WACC). If an investment met the WACC hurdle, it created value. However, DSM imposed an additional performance standard by plotting the current business position and the historical performance of a business group on a so-called "C-curve" (see Exhibit 5).

The C-curve provided a clear indication of the preferred route to value-creation for a business depending on its current return. Three basic scenarios could be distinguished. For businesses that generated returns below the WACC, restructuring and improving the return was priority number one. Businesses that had returns around the WACC needed to improve their performance and were encouraged to explore methods to increase CFROI. Finally, businesses that had returns well above the WACC found themselves in a position that was profitable; the way to create value for this kind of businesses was to grow while improving or maintaining CFROI.

Operationalizing VBBS

Value-creation for DSM as a whole was translated into the internal value-creation measure delta CVA. This measure could be applied at the business group level, but also at lower levels such as business units or product/market combinations. The next step in the VBBS process was to translate the abstract concept of value-creation into operational actions using the concept of value drivers. DSM defined a value driver as an "operational variable which can be influenced by acts of management and which has a direct link with value-creation." Examples of value drivers included: working capital as a percentage of sales, raw material costs per ton, production costs per ton, and sales price per ton.

At this stage, the difference between value drivers and performance indicators became clear. Performance indicators were developed during the BSD and monitored the implementation of the strategy. Value drivers were developed during the VBBS analyses and monitored how the implemented strategy resulted in economic value-creation. Performance indicators applied to the strategic and tactical level and provided early warning signs ('leading indicators'). In contrast, value drivers applied to the operational level of the organization and were financial and often results-based and therefore 'lagging indicators'.

Value drivers and performance indicators did not necessarily have a one-to-one relationship. One performance indicator (e.g. market share) could influence multiple value drivers (e.g., volume, margin, cost), and vice versa, one value driver could be affected by several performance indicators. For the commodity businesses, value drivers and performance indicators often covered the same variables. For example, a value driver could be cost per ton, while the corresponding performance indicator would be a relative measure - costs compared to competitors. However, the link was much less clear for the specialty activities where factors such as the management of the innovation pipeline would be decisive for success. There could be a significant time lag between the filling of the pipeline with new products and the value-creation caused by higher sales volume resulting from these new products.

Once the metrics were defined and the concept of VBBS was clear, DSM started with the strategic assessment of its various businesses. These assessments yielded valuable new insights into the positioning of specific businesses. For example, some businesses that accounting wise (i.e., based on ROI) looked like diamonds in the portfolio, turned out to be value-destroying businesses from a CFROI perspective. Loek Radix, Director of Corporate Finance, explained:

> *"I was almost physically attacked when I delivered that message. But the strategic assessments were a huge eye-opener about how we should manage a certain type of business. Before, there was an atmosphere of complacency in successful businesses. There was no mindset at all about delta value. However, it is not important what today's value is; it is important what the evolution in value is."*

Although people got excited about the results from the VBBS assessments, implementing the new metrics and coming up with value drivers turned out to be a technically difficult and time consuming process. Although the consultants were able to explain the concept of CFROI and CVA, translating this into specific measures was extremely complex. According to Radix:

> *"The sweaty part starts when you really have to develop the metrics in detail. Questions like: 'What do I do with foreign investment?' or 'What is the percentage of economic depreciation?' were difficult to answer. We had to redefine items during the process. That was not really helping us in the introduction of VBBS and we got pushback from the operating managers."*

In early 2002, the general knowledge of the VBBS system in the DSM organization was still limited. Although top management understood the big picture, a survey testing more detailed knowledge showed that even at the executive level a lot still had to be learned. One corporate manager estimated that it would take three to five years for people to really understand and work with the new system. However, at corporate level, VBBS thinking had already significantly changed the strategic approach vis-à-vis the businesses. Whereas previously corporate finance used to strive for consensus, the department was now more able to challenge the businesses, helped by the C-curve. According to Radix:

> *"Before we had a culture of managing conflict in our department. Now we are able to say, 'No, we don't agree, we oppose this investment.' We now challenge businesses whose CFROI is above the WACC to grow, and we refuse to give additional investment money to businesses whose CFROI is below WACC. We now say 'If you don't have 8% CFROI, then your first task is to get that CFROI before you get money for investments.' As a business unit manager you can no longer say: 'I will grow out of the misery.' VBBS and the C-curve really helped to challenge in a different way."*

More than New Metrics: Creating Strategic Alignment through Strategic Value Contracts

Although VBBS within DSM was still very much metrics oriented, right from the early days DSM was aware that it was much more than just adopting new metrics: DSM management felt that it gave them the tools and insights to align the business strategies to performance measurement. The connection between strategy and performance measurement was made by elaborating the BSD into Strategic Value Contracts (SVCs).

From 2001 on, each new BSD had to result in a SVC. A SVC was a summary of the main conclusions of a BSD translated into measurable targets for the next three years. It contained two main sections which had to be explicitly approved by the managing board: 1) bottom line results focusing on CFROI and CVA and the breakdown thereof in controllable value drivers, and 2) strategic goals laid down in the strategic mission and the implementation specified in terms of key success factors, performance indicators and strategic milestones. Thus, both performance indicators for monitoring strategy implementation, and value-based measures for monitoring value-creation were incorporated into the contract. Future performance of the business would be monitored against the agreed-upon SVC.

DSM felt that the SVC was a strong communication tool and helped the implementation of strategy and VBBS at the business group levels. It explained the steps of how businesses were planning to execute their strategy. This led to more transparency and helped the management board ask the right questions and challenge the business groups. One management board member explained:

> *"What always had frustrated me about the BSD was that a strategy was developed, but monitoring the implementation of this strategy was difficult. I am very pleased with the Strategic Value Contract because people are now forced to implement the strategy. Now, people really have to finish the BSD. That is much clearer."*

The SVC was signed by the business group director and the business group referee in the managing board, who signed on behalf of the entire managing board. A successor taking over responsibility for someone's business also had to take over the existing SVC. Proposals for substantial modifications to the contract could only result from major changes in the business environment and had to be approved by the managing board. In early 2002, two business groups had their SVC and five other contracts were in progress. By 2003, nearly all business groups had their SVC.

Compensation

In the past, not meeting targets was widely tolerated at DSM, largely as a result of the fact that DSM had been a cyclical company where 90% of the businesses results were beyond the firm's control. DSM management felt that it had to change this 'culture of excuse' and high level of 'cyclicality tolerance' as DSM transformed into a specialties company. The implementation of SVCs supported this change in culture.

DSM felt that the next step in the implementation of VBBS was to link it with the managers' performance evaluation system. In 2002, it rolled out a new performance appraisal system for its executives which evaluated managers based on their ability to develop sustainable strategies and get them approved (BSD), the achievement of targets set in the SVC, and a number of enabling factors, such as having the right processes and workforce in place. The management board evaluated the top 30 executives, who in turn appraised the managers below them. This appraisal was used to determine managers' salary evolution.

The second element of the compensation system was a short-term incentive program which ranged from 20% to 30% on top of the base salary. This incentive scheme was linked to VBBS by replacing ROI with delta CVA and calculating bonuses based on the current year's delta CVA. Thus, executive compensation was linked both to personal targets and to financial performance measures, such as CFROI, delta CVA and CVA. Lower management was held responsible for the relevant value drivers. Finally, DSM introduced a personnel share option scheme alongside the existing management option scheme in 2001.

When SVCs and the new performance appraisal system were first introduced, managers felt uncomfortable as the pressure on them gradually mounted. On the other hand, the contracts made it clear what was expected of them and improved communication both between the business groups and Corporate and within the business group itself. SVCs also led to a demand from the business group directors with respect to key individuals in their organization. Previously, corporate HR had the authority to move people around and managers typically changed jobs every 18 months to two years. Under the new system, however, some business group directors claimed that they were unable to achieve their SVC targets if they could not keep their key managers. DSM management therefore decided that employees would not move around for a period of three years, but also stated that business group directors had 'corporate' responsibilities in terms of training and follow up of people.

In 2002, DSM was unable to meet its ambitious profitability targets due to unfavorable economic developments. However, a number of corporate improvement targets relating to safety, health and the environment, and a number of targets linked to the Group's strategy were realized. The overall realization was 20%. Moreover, the Supervisory Board had used its discretionary powers to grant an additional bonus

to the members of the Managing Board amounting to 10% of their fixed annual salary, in recognition of their extraordinary efforts in strategically repositioning the company.[3]

The BSD and VBBS Process at Work at DSM Melamine

The DSM Melamine business group was part of the 'Industrial Chemicals' cluster. It was the global leader in the manufacturing and marketing of melamine, supplying almost one third of global demand. Melamine is a heat- and scratch-resistant plastic mainly used in impregnating resins and adhesive resins for laminated flooring and panels in the wood-processing industry. It is also used in car paints, durable plastic tableware, euro bank notes, and flame-retardants. The gas-phase production technology that DSM Melamine used to produce melamine was a proprietary technology developed in 1967 and was a highly sophisticated process technology. The raw materials for the production of melamine were natural gas, ammonia, carbon dioxide, and urea. Since ammonia and carbondioxide were by-products of melamine production, melamine plants had to be built close to a urea plant.

In 2001, world consumption of melamine was nearly 700,000 metric tons, valued at approximately $700 million. DSM Melamine was well established with advanced production plants on three continents and a sophisticated technical support system in place for its customers. In 2002, DSM Melamine's image was one of a global reliable supplier of 'hassle-free' product in Europe, Americas, and Asia Pacific. It earned more than half of its sales from long-term contracts with large customers who considered melamine a strategic purchase item and valued security of supply.

The melamine market was subject to high volatility. Demand for most downstream markets for melamine was greatly influenced by general economic conditions. Consequently, demand followed the fortunes of the leading world economies. Furthermore, demand and capacity had not always been in balance, leading to significant price fluctuations. In 1998, for example, the melamine market was characterized by supply shortages caused by technical problems at several melamine producers worldwide. High imports from overseas by melamine consumers via traders raised spot prices to levels of € 3,500 /ton. In 1999, however, prices collapsed to €800-900/ton. One of the major challenges for melamine producers was therefore to balance supply and demand.

Forecasting demand was not sufficient, however. An accurate estimate of global melamine supply was also needed to avoid major under- or over-supply. This was hard to predict because of the many unplanned maintenance shutdowns at several melamine producers worldwide. The management of DSM Melamine had worked hard to improve its estimates of capacity utilization vis-à-vis global nameplate capacity.

The Early BSDs

DSM Melamine started in 1992 with its first BSD, followed by others in 1995 and 1999. The BSD process proved to be very helpful in addressing the problems and challenges the business group was facing and dramatically changed its performance (see exhibit 6 for the C-curve for DSM Melamine for the period 1992–1997).

BSD 1992

The main outcome of the 1992 BSD was the final approval of a US$80 million project to dismantle a relatively new melamine plant at Geleen in the Netherlands, and reconstruct it in Indonesia. DSM Melamine had made the decision to build the plant in Geleen in 1989 when it predicted a 5% annual growth in melamine in Europe. However, since then melamine sales and prices in Western Europe had declined as demand in key markets in the former Soviet Union stagnated and exports to Eastern Europe slumped. The management team of DSM Melamine had to decide whether to close, sell, or relocate the plant that had been built only in 1992. Management decided to rebuild it in Indonesia where its Jakarta-based business Joint Venture, DSM Kaltim Melamine, in which it had a 60% stake, would own and operate the plant. DSM had wanted to build a Southeast Asian melamine plant for some time as the Asia/Pacific region was a fairly

new market that was developing at a fast pace, especially in countries with major wood-processing industries. The Geleen plant was dismantled in 1994 and rebuilt in Indonesia in 1997, thereby reducing the company's worldwide melamine capacity for three to four years. The plant was the largest melamine plant in the Far East and the first to be built in Southeast Asia.

BSD 1995

In 1995, the second BSD led to a major strategic breakthrough in the eyes of management. The strategy was to 'actively maintain' its global leadership position in terms of market share, technology, cost and customer image. Competition was based on 'price over volume' and DSM Melamine wanted to grow at the prevailing market rate. A breakthrough in the BSD process occurred when DSM Melamine woke up to the fact that it did not have the right technology to grow with the market. Instead of continuing to build large plants with gas-phase production technology - which would cover the growth of the market for the next four to five years - management decided to acquire Shortened Liquid Phase (SLP) technology in 1997. This technology, which required fewer production steps to produce high-quality melamine, would enable DSM Melamine to build smaller plants while still being cost competitive with the traditional gas-phase plants. However, to achieve the same quality level as the melamine obtained in DSM's gas-phase process, the SLP technology had to be upgraded.

BSD 1999

In 1999, a third BSD was performed. The project motivated by the new review was to build a fourth Melamine plant in Geleen based on the new liquid phase technology, which required an investment of €90 million. A portion of that investment would be used to expand urea production at the site. The melamine plant was expected to come on-stream by end 2003.

> *The strategy that followed the 1999 BSD was to continue the 'actively maintain' strategy. Management of DSM Melamine expected worldwide consumption of melamine to grow by 5-6% per annum. This growth was concentrated in Europe and to a lesser extent Asia (China) and the Americas. Accordingly, DSM Melamine planned to expand its global capacity by 30kt every two to three years in addition to de-bottlenecking the existing plants.*

Key success factors for the actively maintain strategy were 'lowest cost delivered' by de-bottlenecking existing gas-phase plants and new low cost technology, and 'security of sales'. The latter could be achieved by negotiating long-term contracts with global key customers, meeting the requirements for strategic customer alliances, and differentiating service levels.

The Strategic Value Contract

In 2001, the first SVC was drafted for DSM Melamine. Since it was DSM's first experience with these contracts, it was primarily viewed as a learning experience. The subsequent 2003 contract, signed in September 2002, was considered the first "real" contract. It was based on the 1999 BSD and would be revised at the end of 2003, once the 2003 BSD was finished. (Exhibit 7 shows an extract of the SVC for the period 1999-2003).

The 2003 BSD Process

The 2003 BSD was initiated by the management of DSM Melamine (DMM), as the Annual Strategic Review of 2002 had shown that its current strategy would not enable the business group to achieve the ambitious targets set forth in the SVC. Projections by DMM showed that the group would have a zero or negative delta CVA from 2004 onwards and reach a major negative delta CVA in 2007. These calculations were based on assumptions from the corporate planning group which had predicted a major economic slowdown for 2007.

In addition, the environment had changed considerably. After experiencing strong demand in 1998 and most of 2000, melamine markets declined or remained stagnant in most regions in 2001. High natural gas costs, lower margins, depressed demand, and significant capacity additions during 1998-2001 forced many melamine producers to curtail production in 2001. Producers such as Melamine Chemicals and Namhae Chemical exited the market. However, industry experts expected the demand for melamine in the US and Western Europe to recover and grow at nearly 3% per year from 2001 to 2006. Demand in Southeast Asia, particularly in China, was expected to experience much higher growth rates because of increasing production of laminates for both domestic use and exports. In the 1999 BSD, DMM had not actively looked into China, as the main investment opportunities were seen to be in Europe (see Exhibit 8 for regional growth forecasts and realization). However, because of the impressive annual growth rate (15%) of the Chinese melamine market, the management of DMM wanted to investigate the impact of China on its current strategy.

Kick-off

The BSD 2003 of DMM started with a kick-off meeting in September 2002 with the BSD global management team, including the management team from Sittard, the general manager of America, the general manager of Indonesia, and the facilitator. Although the facilitator typically came from outside the business group, DMM decided to ask its own Director of Planning and Projects, Marthijn Jansen, to act as facilitator. In his former function at corporate planning, Mr. Jansen had been facilitator for various business groups and was therefore perceived as very experienced in this role. He was expected to spend half of his time on the BSD process for a period of six months. The challenger, Jos Goessens, Business Group Director of Plastic and Engineering, was asked to join the BSD team in January 2003.

One of the criticisms of previous BSDs was that people felt that they were used to ‘sell’ a project to top management. The BSD team wanted to prevent this from happening again in 2003 and therefore stressed the importance of challenging each other during the whole process and making a serious effort at identifying alternatives.

As DMM wanted to perform an ‘issue-driven’ BSD, the BSD team started with identifying the subjects on which they thought decisions were needed. A total of 35 issues were identified ranging from subjects such as marketing & sales, operations, R&D, personnel & organization, and finance, to regional issues related to DMM Indonesia, America, Europe, and China. The next step was to decide which information was needed on these issues to make decisions and who should provide it.

Value Teams

The BSD team decided to create so-called ‘value teams’ for each issue, who were responsible for gathering information (i.e. phase I of the BSD – characterizing the business situation) and performing phase II (i.e., analyzing the business system at macro level). By implementing value teams DMM wanted to involve as many people as possible in the BSD process, thereby creating a large platform for the BSD. The value teams presented the results of phase I and II to the BSD team in December 2002. The micro analysis was finalized in February 2003. The next phase was options and strategic choice (phase IV).

Options and Strategic Choice

A main point of discussion in the BSD 2003 was DSM Melamine’s position in the US, Indonesia and China. Its 50-50 joint venture with Cytec was the largest player in the US with the highest prices. However, the business was not profitable because of high raw material costs. DSM Melamine had the best plant in the world located in Indonesia, but profits there were unsatisfactory due to unstable raw material supply and the negative impact on demand of the Asian crisis. Consequently, it was unable to realize the low cost production necessary. Furthermore, DSM Melamine did not yet have a position in China, which the marketing managers viewed as the fastest growing market.

Management felt that the existing 'actively maintain' strategy may no longer be the best, especially since VBBS required businesses to deliver a positive delta CVA every year. According to one of the managers at DMM:

> *"VBBS has its limits. It is nice for a start-up business but for a mature business it is very difficult to produce a positive delta CVA year after year. It is not easy to create value within a three-year contract in a business like melamine where it takes two to four years for a plant to be operational. So VBBS can lead to short-termism. You have the choice to either increase CFROI on the existing asset base by cutting costs or raising prices, or you can increase the asset base. However, the latter takes more time and involves greater risk.*
>
> *"If DSM did not have VBBS, we would probably continue with our current 'actively maintain' strategy."*

In February, after the macro and micro session, management felt that it should present Corporate with the basic choice to either grow the business - as Dijkman and his team felt that they had reached the limits of cost reduction - or otherwise divest.

Growing the Business

In the ASR 2002, it was concluded that DSM Melamine could grow faster than was currently the case but that it lacked the capacity to do so. Management wondered if it should be more aggressive and investigated growth opportunities in, for example, Trinidad, a Caribbean island with natural gas production, the Middle East, Europe, and China (see Exhibit 10 for the choice on growth ambitions, ranging from 'give up market share' to 'aggressive growth'). In Europe, DMM's main competitors, such as Agrolinz, were following 'grow/build' scenarios in response to growing worldwide demand. Leon Halders, Vice-President Marketing & Sales DSM Melamine, noted:

> *"Our two main competitors in Europe are growing heavily, one is tripling and the other is doubling. They are not part of a large company like DSM, but part of a company where melamine is the most attractive business. Melamine is profitable, but because we are part of DSM with a certain strategic mission, we are not the spearhead of DSM strategy."*

Although DMM had looked into several growth options, China still seemed the most natural and promising market because of its high growth rates. However, questions remained. First of all there was the question of how DMM, which positioned itself as a main supplier, should enter the Chinese market which was currently a spot market. Another issue was the fact that DMM's existing customers had no significant production base yet in China, which meant that it would have to build a customer base. Finally, a wave of capacity expansion in 2004-2006 was expected to result in oversupply. According to industry analysts, approximately 210 thousand metric tons of melamine was added between 1998-2001, with China accounting for nearly half of new capacity. If all announced capacity expansions were completed, global capacity utilization was expected to fall to approximately 80% in 2006 from 86% in 1998. Some anticipated melamine projects were likely to be postponed or cancelled as a result. But, despite the above challenges, the BSD team still believed in major growth opportunities in China.

As DSM Melamine's financial performance exceeded the WACC, requests for investment to build new melamine plants were justifiable from a VBBS point of view. Dijkman, however, wondered if corporate management would agree with this new strategy, as it was not in line with DSM's corporate strategy of becoming a specialties company. Furthermore, investments in melamine plants always involved large amounts of money (between 50 and 100 million euro), which in the first few years would significantly lower DMM's CFROI.

The Corporate Perspective on DSM Melamine

At corporate level, DSM management faced a dilemma. From a financial perspective and in line with VBBS principles, investments in DSM Melamine would make perfect sense. On the other hand, following the corporate strategy of becoming a specialty company, one could question how much more to invest in the remaining commodities business such as melamine. It was also important to think through how investors and analysts would react if DSM were to invest further in its melamine business. Earlier in 2003, the management board had already committed to a €50 million proposal of Caprolactam, its other remaining commodity business.

Another issue confronting the management board was the permanent challenge of balancing short-term requirements and long-term value. Big investments would significantly lower DMM's CFROI and only increase CVA in the long-term.

While debating the dilemma on the growth opportunities for DSM Melamine, however, Corporate was also challenging the business on the cost side. It agreed that DSM Melamine had a good low cost position, but as one corporate executive explained:

> *"We push DSM Melamine. The business has excellent low costs but we are not interested in costs per ton. We would like DSM Melamine to benchmark itself against competitors in its BSD 2003 so that they can see their relative cost position."*

The Broader Issues

In addition to the strategic issues facing DSM Melamine, Corporate also had to tackle the remaining challenges of the BSD and VBBS processes. First, VBBS implementation was heavily centralized in the sense that the corporate center, as opposed to the business groups, was driving the change. Although the corporate center had trained facilitators and provided tools to support the implementation, the process was complex and somewhat slow, with significant differences in progress on implementation between the various business groups. The question was how DSM could speed up the process. Top management hoped that the new appraisal system would help the implementation move forward.

Another concern related to how BSDs and SVCs could be effectively translated into specific actions and program management. Thus far, it had been entirely up to the business groups whether and how to operationalize the chosen strategy in terms of value drivers, or how to integrate the SVC with the performance measurement system such as the balanced scorecard. Business groups chose their own way to resolve these issues, with the outcome often being dependent on the consultant that had been hired.

The real test for the future was 'consequence management'. What should DSM do if a business group did not meet its contract, given DSM's historical culture of tolerance for mediocre performance?

Finally, there were some more fundamental questions. Implementing the new financial metrics had led to greater emphasis on short-term performance. DSM felt that this short-term focus could be hazardous for a specialty company that heavily depended on innovation and R&D. For example, in 2000 one of DSM's most successful and profitable products was Stanyl, a product which had been 10 years in development, with negative EPs throughout all those years. How would these kinds of investment project the new approach?

Exhibit 1

Key Figures on DSM

Balance Sheet (€million)	**2002**	**2001**
Fixed assets	3,639	4,442
Current assets	5, 357	4,133
Total assets	8,996	8,575
Capital employed	4,570	5,763
Group equity	5,186	4,298
Provisions	682	809
Net debt	-1,038	867
Total group equity and liabilities	8,996	8,575
Income Statement (€million)	**2002**	**2001**
Ongoing Activities		
Net sales Life Science Products	2,168	2,237
Net sales Performance Materials	1,767	1,855
Net sales Polymers & Industrial Chemicals	1,268	1,302
Net sales Other Activities	433	357
Total, ongoing activities	5,636	5,751
Operating profit plus depreciation and amortization (EBITDA)	767	741
Operating profit (EBIT)	383	336
Capital expenditure (including acquisitions)	496	561
Discontinued activities		
Net sales	1,029	2,219
Operating profit plus depreciation and amortization (EBITDA)	125	301
Operating profit (EBIT)	67	185
Total		
Net sales	6,665	7,790
Operating profit plus depreciation and amortization (EBITDA)	892	1,042
Operating profit (EBIT)	450	521
Capital expenditure (including acquisitions)	536	652
Profit on ordinary activities after taxation	349	369
Net profit	1,188	1,415
Dividend	199	199
Depreciation and amortization	442	521
Cash flow	1,630	1,936
Workforce at 31 December	18,375	21,504

Exhibit 2

Organizational Structure, as of March 2003

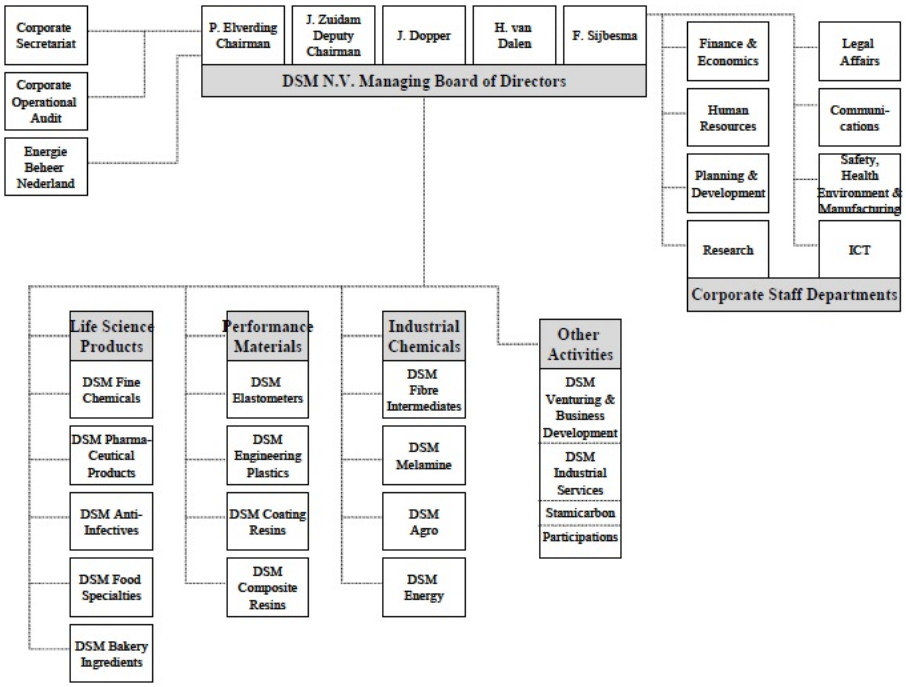


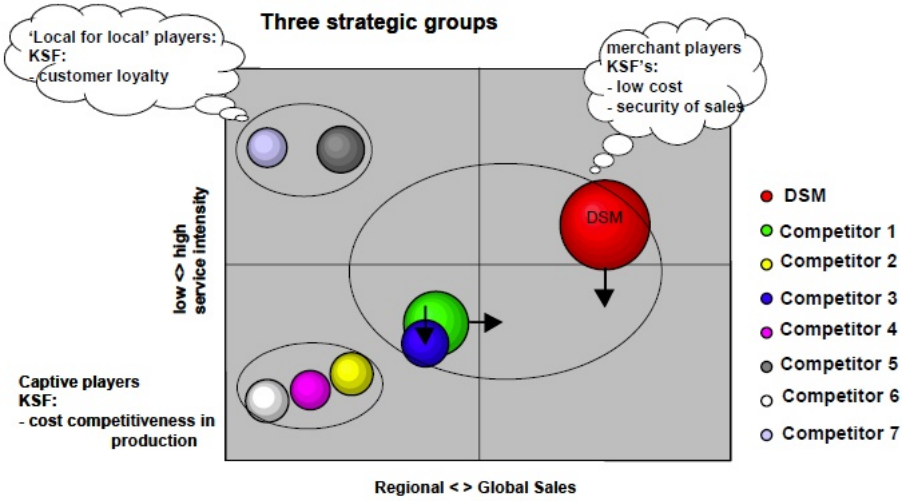
Exhibit 3

The Strategy Development Process

Phase	I Business Situation	II Macro Business System	III MicroBusiness System	IV Options/ Strategic Choice	V Actions & Performance Measurement
Tools	Strategic data checklist	Facilitators	Facilitators	Facilitators	Management reporting format
Duration	2-4 months	2 days	2 days	1-2 days	Continuous
Objective	Gather basic information for BSD	Analyze business dynamics, drivers and strategic groups	Understand own capabilities, analyze strength/weaknesses	Understand options, select performance indicators and targets	Continuously measure progress
Tasks	*Environmental and market analysis * Competitor assessment *Analysis of manufacturing, R&D, technology, HRM, finance, processes	* Discuss business chain * Analyze dynamics * Determine industry drivers * Characterize strategic groups	* Formulation and evaluation of options * Detailed KSF analysis * Qualifiers * Differentiators * Formulation of indicators * Targets from competitive benchmarking		* Progress control * Action plan * Target setting * Continuous improvement program
Output	* Document with required information * Strategy support database	* Strategic groups * Industry drivers	* Capabilities * Organizational / HR assessment	* Strategic plan outline * Strategic mission * KSFs * Indicators * Targets	* Strategic contract versus targets

Exhibit 4

DSM Melamine: Strategic Groups, BSD 1999



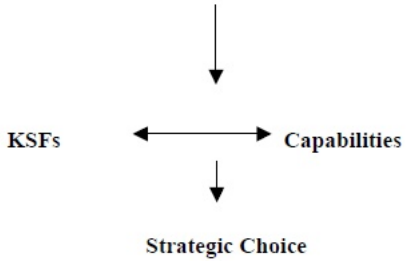


Exhibit 5
C-curve

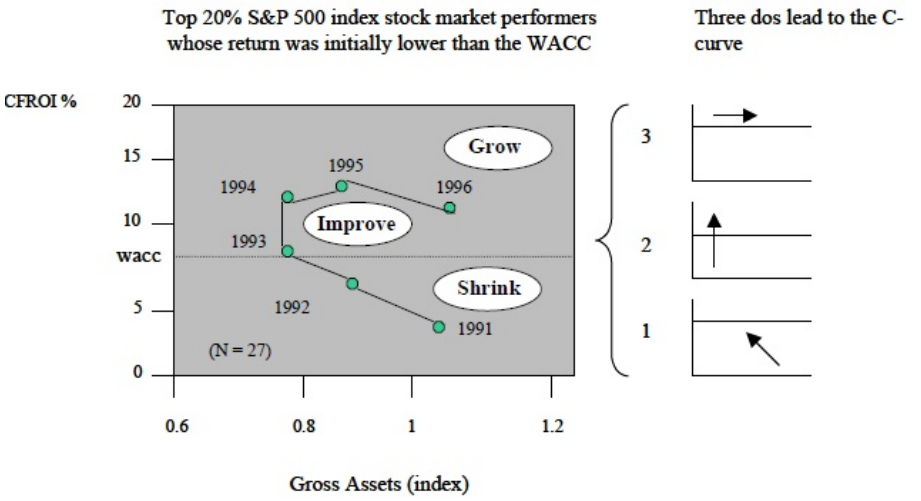


Exhibit 6

C-curve for DSM Melamine 1992-1997

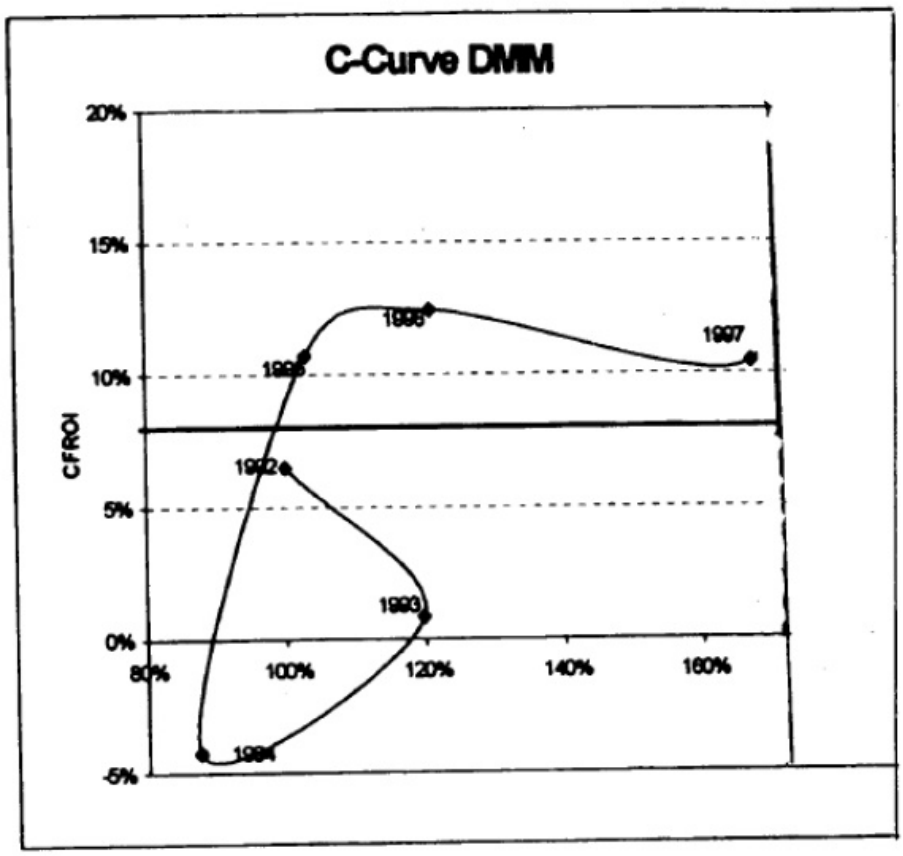


Exhibit 7
Extract of the Strategic Value Contract for DSM Melamine 1999-2003

Strategic mission.

Actively maintain global leadership in market share, technology, cost, and customer image.

1. **Financial Performance Measures:**
   - * EBITDA (m€)
   - * CFROI (%)
   - * CVA (m€)
   - * Delta CVA (m€)

2. **Key Success Factors and Performance Indicators**

   Security of sales

   - * Long-term contract with global key-customers
   - * Meet the requirements for strategic customer alliances
   - * Differentiate service levels
   - * Volume sold under contract
   - * Share of Integrated Panel Producers
   - * Share global customers

   Lower cost

   - * De-bottlenecking existing gas-phase plants
   - * New low cost technology
   - * Capability to Produce (CTP)
   - * Controllable fixed out of pocket cost/m ton

3. **Value Drivers:**
   - * Unit production cost DSM Kaltim Melamine
   - * Unit production cost DSM Melamine Americas
   - * Unit production cost DSM Melamine Europe
   - * Production volume
   - * Average sales price
   - * Sales volume existing plants

4. **Strategic Actions and Milestones**
   - * Defined per project

5. **Required Resources**
   - * Pre-approval for the next 3 years

6. **Sensitivity Items**

- * Global utilization rate
- * USD/EUR currency rate

Exhibit 8

BSD 1999 Regional Growth Rates: Forecasts versus Realization

	1999 Forecast	1998-2002 Realization
Europe	4,0%	4,5%
Americas	5,4%	0,0%
Asia Pacific (APAC)	5,9%	2,9%
China	7,7%	33%

Exhibit 9

DSM Melamine Choice on Growth Ambitions

Market Share Target

20%	25%		30%
Give up market share	**Organic growth**	**Active growth**	**Aggressive growth**
• Price over volume • "Europe only" • Lose market leadership • Max short term cash • Irreversible: - give up China - lose scale economies - technology standstill - competitors build	• Organic growth with existing customer base • China as opportunity market only • No new production capacity • Accept gradual loss of market share	• Gain market share • Access to new Integrated Panel Producers customers • Significant market share in China • Build lowest cost plant, leave high cost plant • Signal commitment to leadership	• "volume over price" policy for plant load • Secure lowest cost position worldwide • Acquisition may bring growth without price erosion

Appendix 1

Definition of Metrics

CFROI:	The Cash Flow Return on Investment is a return measure that is the ratio of the Sustainable Cash Flow divided by the Gross Assets.
CVA:	Cash Value Added is the Sustainable Cash Flow remaining after a reservation has been made for the capital charge. Formula: (CFROI-WACC) * Gross Assets
EBITDA:	Earnings Before Interest & Tax, Depreciation & Amortization. EBITDA equals the Revenue minus the Cost of Sales.
Gross Assets:	The sum of all historical costs of the assets that are being used by a business plus Working Capital and Economic Goodwill paid for any acquired company.
IRR:	Internal Rate of Return. Discounting of future cash flows to the year in which the planned investment is made.
ROI:	Return on Investment. This is a return measure expressed as the ratio of the Operating Profit of a business and the Capital Employed.
Sustainable Cash Flow (SCF):	EBITDA - Tax - Economic Depreciation + Other SCF from non-consolidated companies.
Total Shareholder Return (TSR):	Dividend + stock value increase
WACC:	Weighted Average Cost of Capital is the average return on invested capital (debt and/or equity) that capital providers demand from a business. In the case of D %.

- [1] EBN: Energie Beheer Nederland, the entity controlling the state participations in the exploration, production and marketing of natural gas in the Netherlands, the management of which was entrusted by the State to DSM.

  [2] The deal was closed in September 2003, after the final approval of the anti-trust authorities was obtained. Roche's Vitamins & Fine Chemicals business was renamed DSM Nutritional Products (DNP).

  [3] Source: DSM Annual Report 2002, page 43.

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Strategy and Performance Management at DSM

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