

# Value Focused Management (VFM): Capitalizing on the Potential of Managerial Value Drivers

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**Abstract.** The goal of the firm is to maximize shareholder value. While most firms devote their main efforts to exploit financial value drivers such as mergers and acquisitions, not enough attention is being paid to managerial value drivers like reducing time to market, increasing throughput, or improving logistics, operations and supply chain management, although these managerial drivers have a much greater potential for value creation. This paper focuses on managerial value drivers and presents Value Focused Management (VFM), which is a methodology for enhancing the organization value by identifying its value drivers, quantifying their estimated contribution, and prioritizing them according to their relative value creation potential and difficulty of implementation. VFM combines Value Based Management (VBM) with the Theory of Constraints (TOC) along with practices such as the focusing matrix, and provides managers with a structured process that includes a focused diagnosis of the organization, followed by a comprehensive implementation plan which helps them direct their efforts towards the most promising value drivers. VFM has been successfully implemented in dozens of organizations worldwide. This paper analyzes a case study of a supermarket chain which demonstrates VFM's potential as an effective practical methodology to guide companies in their ongoing quest to increase shareholder value.

**Keywords.** Value Focused Management (VFM), Value Based Management (VBM), Theory of Constraints (TOC), Shareholder Value, Performance Measurement

## 1. Introduction

The goal of the firm is to maximize shareholder value (Copeland et al., 1996; Pitman, 2003; Sundaram & Inkpen, 2004). Therefore, management should focus on value creation by exploiting the firm's value drivers. A value driver is any important factor that significantly affects the value of the firm (Amit & Zott, 2001). There are two main sorts of value drivers: financial and non-financial which are also termed managerial

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value drivers. Financial value drivers include actions such as capital structure changes, mergers and acquisitions, public offering or dividend distribution. These financial activities are performed by top management, and usually their impact on shareholder value can be evaluated ex-ante as well as ex-post. Managerial value drivers include actions like strategic changes, reducing time to market, increasing throughput, or improving logistics, operations and supply chain management. While most firms devote their main efforts to exploit financial value drivers, not enough attention is being paid to managerial value drivers, although they have a much greater potential for value creation.

This paper focuses on managerial value drivers since they are generally disregarded in both research and practice, and presents an effective methodology for capitalizing on the considerable potential of these underutilized value drivers. While the goal of the firm seems clear, the challenges that organizations face are: how to measure value creation, and how to ensure that all the decisions are made according to their impact on value? In this aspect, managerial value drivers are much harder to manage and measure than the financial ones. The financial management and operations management fields provide organizations with various approaches to cope with these challenges. The financial approach which is most identified with value creation is value based management (VBM) (Copeland et al., 1996). Another performance measurement approach that attracted much interest in recent years is Economic Value Added (EVA®) (Stewart, 1992), which is sometimes used together with VBM. Whereas these two approaches answer the issue of value creation measurement, they do not provide organizations with a satisfactory practical mechanism to ensure that all the decisions are made according to their impact on value (Malmi & Ikaheimo, 2003).

From the operations management perspective, the Theory of Constraints (TOC) asserts that the goal of the firm is “to make more money now and in the future” (Goldratt & Cox, 1986). TOC offers a process that leads organizations towards fulfilling this goal and provides a set of performance measures to support decision making. Although TOC enhances value creating actions, it is not explicitly connected to financial performance measures such as EVA® and other VBM measures. Hence, it may be hard to evaluate the impact of these actions on value creation. Moreover, if management has to choose between several alternatives, TOC lacks a tool to evaluate the relative potential long-term impact of each action.

In light of the advantages and drawbacks of the abovementioned approaches, managers need a focused methodology that will integrate the advantages of VBM and TOC, provide a common language across all functional areas and align all the organizational decision making with the goal.

This paper suggests value focused management (VFM), as a methodology for enhancing the organization value by identifying its value drivers, quantifying their estimated contribution, and prioritizing them according to their relative value creation potential and difficulty of implementation. The next section presents the theoretical basis of VFM which combines VBM with TOC along with practices such as the focusing matrix, and reviews the relevant literature.

The third section introduces the VFM methodology. The fourth section analyzes a case study of a supermarket chain which demonstrates VFM’s potential as an effective practical value creation methodology. The managerial value drivers which are examined in the case study are highly relevant to many organizations in the retail industry. The last sections discuss VFM’s contribution to value creation in light of the case study analysis, provide implications for implementation and conclude the article.

## 2. Theoretical Background

### 2.1. Value Creation from a Financial Management Perspective

Value Based Management is a management approach for measuring and managing businesses with the explicit objective of creating superior long-term value for shareholders (Ittner and Larcker, 2001). VBM's leading principle is that all the decisions at all organizational levels should be made according to their impact on value (Copeland et al., 1996). VBM provides managers with two principal tools: the first is discounted cash flow (DCF) valuation and the second is value driver analysis which helps managers focus on the key drivers of corporate value.

In the DCF approach, the value of a firm is defined as its future expected cash flow discounted at a rate which reflects the cash flow risk. Another framework for valuation is Economic Value Added (Stewart, 1992), which is a version of the residual income periodic performance measure (Otley, 1999). EVA® is defined as the net operating profit after tax (NOPAT) less the opportunity cost of the capital used by the business (Stern and Shiely, 2001). Conceptually, DCF and EVA® are equivalent formulas for estimating the continuing value of a firm (Copeland et al., 1996). However, EVA® is useful for evaluating the company's performance in a single period, such as a year.

Ittner and Larcker (2001) define six basic steps which are usually included in VBM frameworks:

1. Choosing specific internal objectives that lead to shareholder value enhancement.
2. Selecting strategies and organizational designs consistent with the chosen objectives.
3. Identifying the specific value drivers.
4. Developing corresponding action plans, selecting performance measures, and setting targets.
5. Evaluating organizational and managerial performance.
6. Assessing and modifying the organization's VBM process in light of current results.

Nevertheless, both DCF and EVA® do not sufficiently support organizational decision making (Malmi & Ikaheimo, 2003). EVA® has two additional drawbacks which probably hinder its use as a dominant performance measure: its reliance on accounting data that can be manipulated and its short term focus (O'Hanlon & Peasnell, 1998).

Ittner & Larcker (2001) regard VBM broadly and include the Balanced Scorecard (BSC) approach (Kaplan & Norton, 1992, 1996) as an integral part of the VBM perspective. Since the BSC incorporates non-financial measures, such as customer satisfaction, it might have been used to identify and evaluate managerial value drivers. However, the BSC relies on multiple objectives (Otley, 1999), which compete for people's attention and send confusing signals regarding the goal. Hence, the BSC is not considered as a useful performance measurement framework (Pitman, 2003).

Malmi and Ikaheimo (2003) who studied VBM utilization in six Finnish-based organizations, observe that VBM does not provide enough practical guidance for decision making and suggest the following guidelines for improving VBM as a practical management approach:

- Aim to create shareholder value.
- Identify the value drivers.

- Connect performance measurement, target setting and rewards to value creation or value drivers.
- Connect decision making and action planning, both strategic and operational, to value creation or value drivers.

These Guidelines will be used in Section 5 to evaluate the contribution of value focused management.

## 2.2. Value Creation from an Operations Management Perspective

The Theory of Constraints (TOC) (Goldratt and Cox 1986; Goldratt 1994) claims that the attention of management should be focused on the few constraints which prevent the organization from achieving its goal. TOC is gaining increasing acceptance among practitioners as well as academics (Rahman, 1998; Gupta, 2003), and its application provided thousands of organizations worldwide with significant performance improvements, such as increased throughput, reduced inventory levels and shorter lead time (Mabin & Balderstone, 2000). While reports of successful TOC implementation are mainly from manufacturing organizations especially aerospace, apparel, automotive, electronics, furniture, semiconductor, steel and heavy engineering (Mabin & Balderstone, 2003), TOC has also been implemented in diverse non-manufacturing industries including financial institutions (Smith, 2004), enterprise software (Ioannou & Papadoyiannis 2004) health services (Ronen et al., 2006) and also in the public sector (Shoemaker & Reid, 2005).

Goldratt (1991) initially defined the five focusing steps of TOC for maximizing the performance of a system (see steps 3–7 below). Ronen and Spector (1992) enhanced the process by adding two preliminary steps (see steps 1–2 below). These two steps are particularly important regarding sub-systems such as business units that each one of them is considered a separate profit center, or in situations of dynamic constraints when the binding constraint changes over time. Therefore, the seven focusing steps are (Ronen et al. 2001):

1. Define the system's goal.
2. Determine global performance measures.
3. Identify the system's constraints.
4. Decide how to exploit the system's constraint.
5. Subordinate the system to the constraint.
6. Elevate the system's constraint.
7. If, in the previous steps, a constraint has been broken, go back to step 3. Do not let inertia become the system's constraint.

Value Focused Management (VFM), which is presented in the next section, draws on TOC in two aspects, first the seven focusing steps serve as a conceptual framework for VFM and second, the TOC performance measures are used to identify managerial value drivers. The performance measures profile is a tool to support global decision-making that examines alternative courses of action through the organization's global performance measures. It is a two-dimensional matrix of which the columns represent the alternative actions and the rows represent the performance measures, as shown in Table 1. The first three measures were defined by Goldratt & Cox (1986) and the other three were suggested by Eden et al. (1993). Each organization should modify the performance measures profile to its special needs by dropping or changing the suggested measures or adding new ones.

**Table 1.** The Performance Measures Profile

Performance Measures	Alternative A	Alternative B	....
T	Throughput		
OE	Operating expenses		
I	Inventory		
LT	Lead time		
Q	Quality		
DDP	Due-date performance		

TOC provides organizations with tools and performance measures which ensure that all the decisions are made according to their impact on value, and supports decision-making at all the organizational levels. The applicability of TOC has been demonstrated in hundreds of successful reports (Mabin and Balderstone, 2003). Therefore, TOC answers one of the two main challenges of value creation. Yet, it does not offer a satisfactory answer to the value creation measurement challenge, since it is not explicitly connected to the financial performance measures which are commonly used to evaluate the firm. Especially, TOC lacks a tool for evaluating the relative potential long-term impact of alternative actions.

The definition of performance measures has a crucial effect on value creation. Since people behave as they are measured, the measures must guide employees to act in ways that advance the overall goal of the organization (Otley, 1999). Appropriate performance measures should have the following attributes (Geri & Ronen, 2005):

- *Global and effective*, so that improving them significantly enhances value creation.
- *Clear and simple*, so people can understand them and act appropriately.
- *Easy to measure*. The people who use a specific measure should collect the required data, or it should be drawn from existing information systems.
- *Satisfying*. Searching for optimal “perfect and accurate” measures may result in a heavy maintenance burden and over-precision. This in turn, may lead to abandoning the system.
- *Fit the specific organization*. Attempting to adopt a proven successful performance measurement system “as is” may end in disappointment. Each organization has to gradually build up a measurement system that suits its needs. The measures in table 1 may serve as a starting point.

These attributes guided us in the development of VFM, which is presented in the next section, and will be used to evaluate VFM in Section 5. However, the goal is to increase shareholder value and therefore this value should be used as the primary performance measure.

### 3. Value Focused Management

Value focused management is a practical methodology for increasing shareholder value. VFM draws on VBM and TOC and provides a common language across all functional

areas, thus it enables aligning all the organizational decision making with the goal and creates a clear link between management actions and shareholder value. VFM adds the difficulty of implementation dimension to the decision making process, through the focusing matrix which is detailed below. Hence, VFM considers the load on management attention, which according to Davenport and Beck (2000) is the scarcest resource in modern organizations, and focuses management attention on the most promising value drivers. VFM identifies the value drivers, quantifies their estimated contribution, and prioritizes them, according to their relative value creation potential and difficulty of implementation. The stages of VFM are:

1. Define the goal.
2. Determine the performance measures.
3. Identify the value drivers and evaluate their potential impact.
4. Decide how to improve the value drivers.
5. Implement and control.

We now elaborate on each of these stages.

### *3.1. Stage 1: Define the Goal*

The goal of the firm is to maximize shareholder value, and it should be clear to all managers and employees of the organization. The debate whether a firm should maximize shareholder value or stakeholder value, has been going on since the nineteenth century. However, legal as well as theoretic arguments stress that the objective function of the corporation is to maximize shareholder value (Copeland et al. 1996; Sundaram & Inkpen, 2004). Nevertheless, considering the interests of stakeholders such as employees, customers, suppliers and the community will advance the goal of the firm in the long term.

### *3.2. Stage 2: Determine the Performance Measures*

VFM combines several financial and operational performance measures, but the firm value is the primary performance measure. We use the DCF approach (Copeland et al., 1996) and define shareholder value as the discounted cash flow available to shareholders. The financial statements provide the necessary data for valuation. Shareholder value is calculated as follows: the value of operations less net financial liabilities plus excess assets (such as real estate not necessary for ongoing operations). The value of operations is the discounted value of expected future free cash flow (Copeland et al., 1996), and is separated into two time periods: an explicit forecast period (usually the first five years) and the value after the explicit period, which is referred to as the residual value (also termed the continuing value).

The performance measures also include the global TOC measures: throughput, operating expenses, inventory, lead time, quality, and due-date performance, as well as specific relevant global measures. Finally, EVA® is used to measure the change in shareholder value during the period.

### *3.3. Stage 3: Identify and Evaluate the Value Drivers*

This is the main stage of VFM which differentiates it from other value creation methodologies, and it includes seven activities, which are detailed below.

### 3.3.1. Identify the Value Drivers

As already mentioned, a value driver is any important factor that significantly affects the value of the firm (Amit & Zott, 2001). The potential value drivers are identified by a focused review and analysis of the organization from four different approaches, which are detailed below. The review is carried out by interviewing the management team, key personnel, customers, suppliers, or other business partners; reviewing financial and management reports; visiting the premises; and benchmarking against similar organizations.

*The financial statements approach.* The financial statements are reviewed and benchmarked in order to identify potential value drivers such as high inventory levels or a decrease in revenues.

*The functional review approach (bottom-up).* All the organizational functions are systematically examined to find relevant value drivers. These functions include: the business strategy; marketing, sales and business development; human resources management; information systems; finance; research and development; quality; operations, logistics and procurement; cost accounting, organizational structure; risk management; customer service and support; project management.

*The performance measures approach.* The value creation potential of improving each one of the current and prospective performance measures of the organization is evaluated. These include the global TOC measures: throughput, operating expenses, inventory, lead time, quality, and due-date performance, as well as other specific relevant global measures. Sometimes, the use of inappropriate performance measures such as traditional cost accounting measures distorts decision making and reduces shareholder value. Hence, in these cases, modifying the performance measures can be a major value driver.

*The core problem identification approach (top-down).* A current reality tree (Goldratt, 1994) is used to analyze the undesirable effects (UDEs) and identify the root problems of the organization. A UDE is any major issue that prevents the organization from achieving its goal. The UDEs may include problems and symptoms which were revealed by the other approaches, as well as new UDEs. Figure 1 presents an example of a current reality tree. The distinction between problems and symptoms is crucial, since the real value creation potential lies in solving the core problems.

### 3.3.2. Evaluate the Potential Impact and Difficulty of Implementation

About ten of the identified value drivers, which are perceived as the most important ones are selected. The potential impact of each value driver is estimated, as well as additional required investments. For instance, insourcing the customer service call center will cost two million dollars during the first year, and will result in a one-time 2% increase in sales in the second year, due to improved customer retention. In the following years, sales will remain in this higher level. The cost of sales changes proportionately. The difficulty of implementation is evaluated on a scale from 1 (very hard) to 5 (easy). In this example, it is estimated as medium, 3. Additional examples are provided in Section 4.

### 3.3.3. Prepare a Base Valuation

The base valuation is the starting point of the value creation potential calculation. An example of a base valuation is presented in appendix A. It is based on the company's

financial statements, and can be easily prepared by using an electronic spreadsheet. Since the purpose of this valuation is to provide a point of reference for measuring the relative changes it does not have to be very accurate (e.g., the cost of capital may be rounded to whole percentiles).

#### *3.3.4. Prepare a Pro Forma Valuation for Each Value Driver*

A separate pro forma valuation, such as the two examples presented in appendix B, is prepared for each value driver, according to the assumptions regarding its impact (e.g., a one-time 3% increase in sales, and a proportionate increase in cost-of-sales).

#### *3.3.5. Prepare a Focusing Table*

The information regarding each of the value drivers' importance (i.e., value creation potential) and difficulty of implementation is summarized in a focusing table, such as table 2 below, and the total value creation potential of the organization is calculated.

#### *3.3.6. Prepare a Focusing Matrix*

The value drivers are presented in a focusing matrix (Pass & Ronen, 2003), like the one in Fig. 2 below. This presentation, that reminds an efficient frontier graph (Markowitz, 1952), helps identify those drivers with the greatest value creation potential and which require less implementation efforts.

#### *3.3.7. Select the Value Drivers*

Finally, top management has to choose and prioritize the value drivers which will be improved. Besides the dimensions of the focusing matrix, there may be other considerations, for instance, the implementation of a certain value driver may create options for further value creation, or there may be interdependencies between certain value drivers.

### *3.4. Stage 4: Decide How to Improve the Value Drivers*

For each chosen value driver a detailed work plan will be drawn up, including a full description of the activities, an implementation schedule and the person responsible for each activity. The plans will be based on innovative management methods and techniques, such as TOC (Goldratt & Cox, 1986), Just-In-Time (Schonberger, 1986), the complete kit concept (Ronen, 1992) and others.

### *3.5. Stage 5: Implement and Control*

Top management is responsible for the implementation and control of the value creation plan. Since corporate mission is to increase shareholder value, top management should lead and participate in the steering committee of each value driver improvement project. The implementation process should be reported to the board of directors which should discuss the encountered problems and ways to overcome them. It is of paramount importance that the value creation process will be integrated with the organization's management and control processes, hence the performance measurement and reward systems, the information and control systems and all the other mechanisms should be used for this purpose.



#### 4. Example: The Supermarket Chain

This section analyzes an example of a supermarket chain and demonstrates the effectiveness of VFM as a practical value creation methodology. The managerial value drivers examined below are highly relevant to many organizations in the retail industry. The following example is a modified abridged version of the supermarket chain example which was analyzed by Eden and Ronen (2002). The example elaborates on the third stage of VFM: identifying the value drivers and evaluating their potential impact. The other stages are as described in the previous section. That is, the goal of the supermarket chain is to maximize shareholder value (stage 1). The performance measures (stage 2) are those indicated in Section 3.2: the DCF approach is used to measure shareholder value and the required data are taken from the financial statements (see appendix A), TOC global measures are used for performance measurement, and EVA® measures shareholder value change during each period. The activities of the third stage are detailed in the subsections below. The two final stages: deciding how to improve the value drivers (Stage 4), and implementation and control (Stage 5), were carried out as described in Sections 3.4 and 3.5 respectively.

Appendix A presents the financial statements and the base valuation of the supermarket chain. Shareholder value is estimated at \$154 million. The shareholders require a return of 10% per year, and the cost of debt is 3.2% (that is, 5% less 36% corporate tax rate). The equity is \$182 million, and the debt is \$63 million. Hence, the weighted average cost of capital (WACC) is 8.25%, and was calculated as follows:

$$\text{WACC} = 10\% * 182/245 + 3.2\% * 63/245 = 8.2514\% \approx 8.25\%$$

EVA® is defined as:

$$\text{EVA}^{\circledR} = \text{net operating profit after tax (NOPAT)} - \text{WACC} * \text{invested capital.}$$

Thus, the EVA® at the base year is negative:

$$\text{EVA}^{\circledR} = 17.92 - 8.25\% * 245 = -2.296$$

Although the chain has an annual net income of \$15.9 million at the base year, the EVA® is negative, and shareholder value is being eroded by approximately \$2.3 million per year. Therefore, management must find ways to create value.

##### 4.1. Identifying the Value Drivers

The four approaches described in Section 3.3.1 were used to identify the chain's value drivers.

##### 4.1.1. The Financial Statements Approach

The chain's financial statements were analyzed and compared with the two leading competitors and sector average data. Three potential value drivers were identified:

- Low profit rate compared to the sector average.
- High inventory levels.
- Relatively short supplier credit terms compared to the competition.

#### 4.1.2. The Functional Review Approach (Bottom-Up)

All the organizational functions were reviewed in a focused process which included several visits to selected supermarket branches and to the chain's headquarters, on-site interviews and management workshops. The main findings were as follows:

*The organization's strategy.* The chain's strategy is outdated and not well defined. The branches are located mainly in the suburbs and there are no branches in prime locations. The chain does not have a private label. Furthermore, it lacks a logistics center which would enable better operations and control.

*Marketing, sales and business development.* A comparative study showed that the average customer purchase is 8% lower than that of the competitors.

*Human resources management.* There is a large turnover of low and middle management personnel, especially among key branch employees. However, there is a strong sense of identification and loyalty of the branch staff members, who have been with the chain for many years, and labor relations are good.

*Information systems.* Branch managers complain that the information systems are inadequate, and do not provide them with managerial information. For instance, sometimes they reveal shortages by physically checking the shelves.

*Operations, logistics and procurement.* The supermarket chain does not have a logistics center. On a typical day, more than 30 different suppliers arrive at a branch, and it interferes with the branches' smooth operation.

*Organizational structure.* The organizational structure is centralized and the branch managers are allowed little freedom of action. All financial expenditures for branch maintenance, for sales promotion or hiring temporary or permanent personnel have to be authorized by the main office.

#### 4.1.3. The Performance Measures Approach

The chain's performance measures were reviewed and the identified potential value drivers are:

*Inventory.* There are about 11.9 inventory turns per year, meaning that the inventory level is enough for one month.

*Lead time.* The average time from a branch request until its fulfillment is four working days.

*Lost sales.* This is an important measure, which is commonly used by retailers. The average lost sales rate of the supermarket chain is estimated at 4.6%. It was calculated based on the assumption that in half of the cases when the required item is out of stock, the customer will buy a similar item on the same purchase occasion, or will postpone the purchase at the chain to a later occasion. In the remaining cases, the customer will buy the product elsewhere or not at all (particularly in cases of spontaneous buying).

#### 4.1.4. The Core Problem Identification Approach (Top-Down)

A current reality tree (Goldratt, 1994) was built in order to identify the company's core problems and is presented in Fig. 1. The UDE's were elicited from interviews with managers and employees, and they also include problems and symptoms which were revealed by the previous three approaches. As shown in Fig. 1, the chain's core problems are: outdated strategy, ineffective operations and over-centralized management.

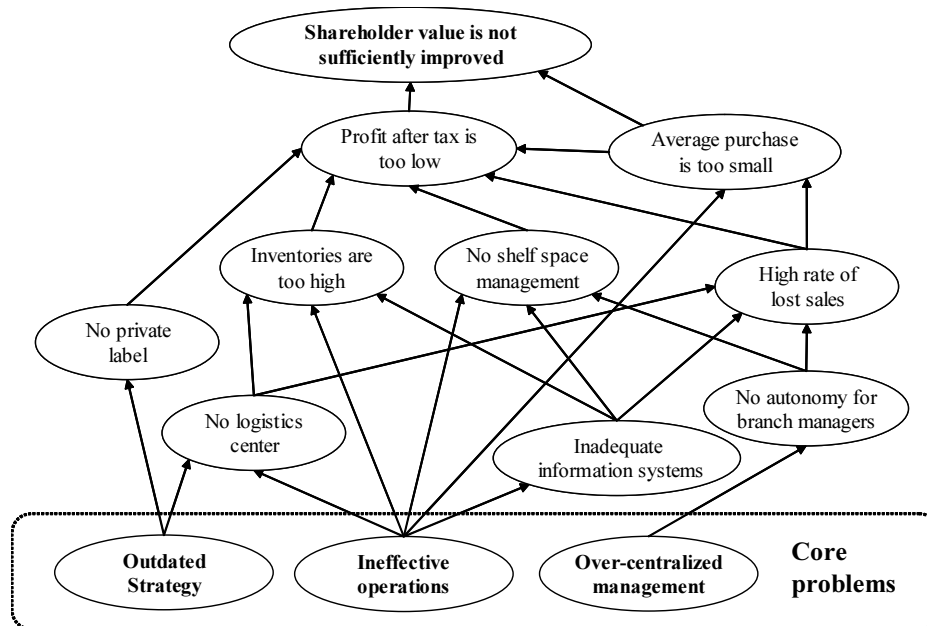


Figure 1. Current Reality Tree.

#### 4.2. Evaluating the Potential Impact and Difficulty of Implementation

Following the identification process, seven potential value drivers were chosen for further consideration, and the expected impact and implementation difficulty of each one of them is detailed below.

##### 4.2.1. Value Driver 1: Increasing the Average Customer Purchase

Since the functional review revealed that the average customer purchase is 8% lower than that of the competitors, increasing it seems to be a promising value driver. It is assumed that increasing the average purchase by 5% will lead to a parallel increase in sales of 5% in the first year, after which the sales will remain at the same level. It will be accomplished by seasonal sales promotions, cashier training, sampling and tasting promotions, advertising, lotteries, and so on. Service improvement has also a major impact on increasing customer average purchase. Attention should be paid to enhancing the shopping experience, by trying to give the customers more than they expected with regard to service and courtesy. The checkout counters are a bottleneck during peak hours. The cashier's "complete kit" (Ronen, 1992, Ronen et al., 2006) at the start of the shift can greatly help in reducing the non-effective time at the checkout counter. The cashier's kit includes coins and small bills for change, additional cash register rolls, up-to-date price lists for certain items, information on special offers, coupons, and so on. This will reduce the cashiers' wasted time, and enable them to devote more time for special promotions and interaction with customers.

These actions will require additional costs, estimated at 0.5% of sales, every year. The difficulty of implementation is considered relatively easy, 4 on a scale of 1 (difficult) to 5 (very easy).

#### 4.2.2. Value Driver 2: Establishing a Logistics Center

Establishing a logistics center is in line with contemporary management philosophies, especially Just-in-time and TOC. Setting up a single logistics center which centrally distributes goods to the branches has the following advantages:

- Reducing the number of daily deliveries to the branch will relieve branch managers of handling deliveries and supervising unloading, therefore leaving them more time for improving service and promoting sales.
- Reducing unloading time and waiting time of the delivery vehicle.
- Optimizing deliveries since a single aggregate delivery is cheaper and more efficient than 10 or 20 deliveries of different suppliers. As both the suppliers and the chain benefit from the change, the suppliers may be charged for the additional service provided by the logistics center.
- Managing inventories from a global perspective together with improved supervision and control will result in cost savings, fewer shortages and reduced lost sales.

It is estimated that lost sales will fall by 50% (from 4.6% to 2.3%), and the extra time that branch managers will be able to devote for service improvement and sales promotion will lead to a 1% increase in sales, resulting in a total sales increase of 3.3%, starting from the second year. The estimated cost of constructing a logistics center is \$10 million in the first year, with another \$4 million per year for maintenance and operations, beginning from the second year. Aggregated delivery to the branches will allow an annual saving of \$500,000, starting from the second year. That is, the net costs will increase by \$3.5 million. Moreover, it will be possible to charge the suppliers 1% of the sales, starting from the second year, for transportation and handling. Furthermore, total inventories will decrease by 10%, as of the second year. In the opinion of the chain's managers, implementation will be difficult – 2 on the 1–5 scale, since it requires establishing new business processes and fundamental changes in working with many suppliers.

#### 4.2.3. Value Driver 3: Introducing a Private Label

The chain considers launching its own private label and plans that in the first year private label sales of coffee, soft drinks, and washing detergents will reach 5% of the revenues. This percentage will increase in the second year to 7%, in the third year to 10%, and in the fourth and fifth years to 15%. The chain's economists calculated that it is possible to procure private label products at 80% of the brand names price. This will also enhance the chain's bargaining power over the leading brand names suppliers, though due to conservative practices we will not include this benefit in the calculation. The cost of introducing a private label is estimated as follows: \$2 million in the first year; \$1.5 million in the second year; \$1 million in each of the third, fourth and fifth years. The difficulty of implementation is 3 (moderate).

#### 4.2.4. Value Driver 4: Shelf Space Management

Not enough attention is paid to shelf space management and product display. It is estimated that the implementation of a supportive software package can increase the average consumer purchase by 3%, resulting in a similar 3% growth in revenues each year. An additional 1% increase in sales can be obtained by applying specific throughput

concept (Pass and Ronen, 2003) which is further explained below, and removing items with poor specific throughput from the shelves. Altogether, sales will increase by 4%.

In a large branch, some 10,000 different items (stock keeping units – SKUs) are displayed on the shelves, while there are more than 100,000 potential SKUs that the suppliers would like to offer. Thus, there must be a system of strategic gating of the products (Pass and Ronen, 2003). Although choices are limited, management still has some flexibility over 20% of the shelf space.

Since the system constraint is the shelf space, one of the considerations in displaying goods on the shelves or removing them is the throughput per unit of shelf space, i.e., the specific throughput.

The costs of purchasing shelf space management software, applying the specific throughput concept, and additional advertising and sales promotion expenses are estimated as follows:

A one-time expenditure of \$500,000 will be required in the first year. In this year, the increase in sales will not be realized, due to the need to implement the system in the branches. Starting from the second year, there will be a variable cost increase of about 0.2% of sales while sales will grow by 4% compared to the base year, and will remain at this level in subsequent years. The implementation difficulty is 5 (relatively easy).

#### *4.2.5. Value Driver 5: Improving the Quality of the Administrative and Operations Personnel*

One of the main challenges of the chain is the need to replace some of its mid-managers. At the same time, the turnover of those managers the chain wishes to retain has to be reduced. Management recruiting, training and development programs, and plans to retain competent employees are likely to induce the following results:

- In the first year, there will be no change in revenues.
- From the second to the fifth year, sales will be 3% higher relative to the base year due to better management and a further increase in the average customer purchase, as well as a 10% decrease in lost sales. These improvements are in addition to those described in the previous options.
- Due to increased efficiency, the inventories will remain at the base year levels, despite the increase in sales.

The expenses involved are about \$1,000,000 for the first year, and include recruiting, managers training, and a program to retain competent employees. From the second to the fifth year the expenses will amount to \$700,000 per year. The implementation difficulty is considered 3 (moderate).

#### *4.2.6. Value Driver 6: Expanding the Product Display Area*

The suggested improvement is to expand the product display area in the branches by reducing storerooms area and increasing the frequency of deliveries. Currently, deliveries to the branches are mostly made once a week (except for fresh produce, which arrives daily) and about 25% of the branch area serves as internal storage space. It is proposed to double the delivery rate in order to halve the required storage area, so the redundant space can be transformed into additional display area. However, this plan is contingent on the establishment of a logistics center which was described above (see Section 4.2.2).

Pilot studies carried out by the chain showed that expanding the display area and displaying new product categories in the additional space resulted in a proportional sales increase. As of the second year, the display area will be expanded by 8%, hence sales will increase by 8% compared to the base year and will remain at this level from that year on. The additional expenses (beyond the cost of moving to the logistics center which is accounted for in Section 4.2.2) will amount to \$2 million per year, apart from the first year when they will be \$1 million. The implementation difficulty is 4 (relatively easy).

#### 4.2.7. Value Driver 7: Increasing Supplier Credit Days

The chain's supplier credit terms are worse compared to its competitors. The intention is to increase credit days by 10%. Even then, it will still be lower than the terms of the competing chains. This will be carried out by negotiating with the suppliers, and therefore it does not involve any additional expenses. However, the implementation difficulty is estimated as 1 (very difficult), due to strong opposition mainly from the leading suppliers.

#### 4.3. Preparing a Base Valuation

The base valuation is presented in appendix A. Shareholder value is estimated at \$154 million.

#### 4.4. Preparing a Pro Forma Valuation for Each Value Driver

Two examples of pro forma valuations are presented in appendix B. All the valuations are based on the following general Assumptions:

- Any change in sales volume results in a proportional change in the cost of sales, in the accounts receivable and the accounts payable, and in the inventories.
- The operating expenses are fixed.
- The supplier credit (i.e., accounts payable) is sufficient to finance the inventories and the customer credit (i.e., accounts receivable).
- Depreciation expense is \$18 million per year. The annual capital expenditures are equal to the amount of depreciation.
- At the end of each year, all available cash flow is distributed to shareholders as dividends.
- The weighted average cost of capital (WACC) is 8.25% (as calculated above).

The assumption that the cost of sales changes proportionally to the change in sales implies that all these costs are considered as variable costs. This may not be the case, so it can be regarded as a conservative valuation. Alternatively, one may assume that a certain portion of the cost of sales is fixed, and change the calculations accordingly.

#### 4.5. Preparing a Focusing Table

The total potential additional value creation calculated in Table 2 is \$382 million. As the base valuation is \$154 million, obviously the chain is up for a considerable improvement.

**Table 2.** The Focusing table: Calculating the total value creation potential

#	Value driver	Importance: Additional value (\$M)	Difficulty of implementation (1 – very difficult, 5 – relatively easy)
1	Increasing the average customer purchase	44	4
2	Establishing a logistics center	66	2
3	Introducing a private label	97	3
4	Shelf space management	43	5
5	Improving the quality of administrative and operations personnel	35	3
6	Expanding the product display area	93	4* Contingent on the establishment of a logistics center
7	increasing supplier credit days	4	1
<b>Total value creation potential</b>		<b>382</b>	

#### 4.6. Preparing a Focusing Matrix

The focusing matrix presented in Fig. 2, maps the value drivers according to their relative importance and difficulty of implementation. The preferred value drivers are those nearest the right top of the matrix, since they have the greatest value creation potential and they are the easiest to implement. However, the selection is not straightforward; for instance, value driver #4 is easier to implement, compared to value driver #2, but the latter has more value creation potential.

#### 4.7. Selecting the Value Drivers

At a meeting of the board of directors, it was decided to implement the first six potential value drivers. The seventh proposal, to increase supplier credit days, was rejected since its expected contribution is relatively low, it would require considerable management attention and efforts, and moreover, it may jeopardize the full cooperation with suppliers which is required for the successful operation of the new logistics center. At the first stage, management will start working on value drivers 1, 2, 4, 5 and 6. The implementation of the third value driver, introducing a private label, was postponed due to the large amount of management time it requires, and in order to avoid dispute with leading suppliers.

It should be mentioned that the board of directors instructed management beforehand to focus the efforts on utilizing existing resources. Therefore, value drivers which involved further expansion, such as opening new branches, were not considered.

#### 4.8. Summary

Supermarkets usually have low profit margins. However, as the above example demonstrated, managerial value drivers, which involve a relatively low investment, have a great potential to improve the chain's shareholder value. VFM provides management

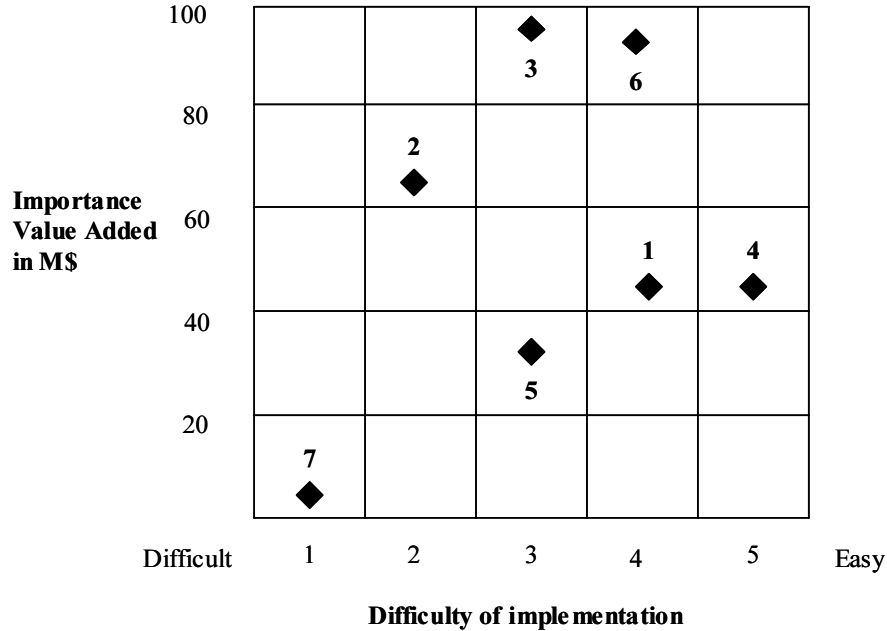


Figure 2. The focusing matrix.

with practical tools to identify, analyze and realize these managerial value drivers. The subsections above elaborated on the third stage of VFM, but this is just the beginning of the improvement process. Detailed plans should be prepared for each approved value driver (stage 4), and top management should lead and control the implementation (stage 5). The importance of management commitment and involvement cannot be overstated. Management role is to ensure that the value creation process is integrated with the organization’s management and control processes, and if necessary, change these processes.

The EVA® at the base year is negative, so as long as there is no change, the chain destroys shareholder value at a rate of \$2.3 million per year. The implementation of just a single value driver from drivers 1, 2, 3, 4 or 5 (driver 6 is not included albeit its great potential, since it is contingent on driver 2) is enough to generate a positive EVA®. The base valuation is \$ 154 million, and if most of the suggested plans are fulfilled it may increase over threefold.

**5. Discussion**

Management’s mission is to increase shareholder value. Sometimes, organizations try to advance numerous improvement initiatives simultaneously. However, the scarcest resource in organizations is attention (Davenport & Beck, 2000), so managers cannot handle all these initiatives successfully. Moreover, trying to do so may result in failure of most or all of the initiatives altogether. Managers may be aware of the undesirable effects of bad multitasking, but even when they choose to focus on a limited number of initiatives, they do not necessarily choose the critical issues which have the greatest



potential to increase shareholder value. VFM provides managers with a structured methodology that helps them identify the relevant value drivers. A further unique contribution of VFM is that it considers the load on management attention by adding the difficulty of implementation dimension to the decision making process, and through the focusing matrix, it helps choosing the most promising value drivers.

Malmi and Ikaheimo (2003) suggested four guidelines which are detailed in Section 2.1, for improving VBM so it can become a more practical management approach. VFM fulfills all these guidelines: First, VFM aims to create shareholder value; however, this is not unique to VFM. Second, VFM provides a structured methodology for identifying the value drivers. But, VFM's main contribution is that it connects decision making and action planning, both strategic and operational, to value creation or value drivers. The fifth stage of VFM emphasizes the importance of integrating VFM with the organization's management and control processes. Hence, VFM connects performance measurement, target setting and rewards to value creation or value drivers.

As measures should guide management and employees alike to act in ways that advance the overall goal of the organization (Otley, 1999), the attributes of appropriate performance measures (Geri and Ronen, 2005) detailed in Section 2.2, are used to evaluate VFM.

VFM's measures are global and effective since the primary measure is shareholder value, which directly relates to the goal. Moreover, the measures are clear and simple, and their most important attribute is that they provide a common language, understandable by all. The implications of alternative operational improvements are translated to financial terms, and compared through the focusing matrix, which also considers their difficulty of implementation.

The necessary financial data are based on the firm's financial statements and do not require additional measuring or data collection efforts. The base valuation, as well as the pro forma valuations of the value drivers' impact, are satisfying, and do not entail major efforts to find the most "perfect and accurate data". The valuations are used to estimate the relative importance of the proposed improvements and are meant for internal purposes. Hence the valuations need not be accurate and can be prepared by the organization's internal staff, without consulting external valuation experts.

Stage 2 of VFM, determining the performance measures, allows fitting the measures to the organization's special needs, while at the same time it provides the main general global measures which should guide all business organizations in their decisions.

## 6. Conclusions

In most organizations, managerial value drivers are underutilized due to lack of a clear connection between managerial improvements and value creation. Moreover, management attention is limited, and sometimes this scarce resource is wasted on less worthy improvement initiatives, while other important ones are overlooked or neglected.

This paper presented value focused management, which is a practical methodology for increasing shareholder value. VFM provides managers with a structured process that includes a focused diagnosis of the organization followed by a comprehensive implementation plan, which helps them direct their efforts towards the most promising value drivers.

VFM draws on VBM and TOC and provides a common language across all functional areas, thus it creates a clear link between management actions and shareholder value. VFM considers the load on management attention by adding the difficulty of implementation dimension to the decision making process, through the focusing matrix.

VFM has been successfully implemented in dozens of organizations worldwide. The paper analyzed a case study of a supermarket chain which demonstrated VFM's potential as an effective practical methodology to guide companies in their ongoing quest to increase shareholder value.

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Table 4. (Continued.)

	<u>Base year</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Thousands \$						
Increase (decrease) in Working capital	0	0	0	0	0	0
Capital expenditures	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>
Total gross investment	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>
<b>Cash flow available to investors</b>	<b><u>17,920</u></b>	<b><u>17,920</u></b>	<b><u>17,920</u></b>	<b><u>17,920</u></b>	<b><u>17,920</u></b>	<b><u>17,920</u></b>
<u>Economic value added calculation</u>						
<b>NOPAT (Net operating profit after tax)</b>	<b>17,920</b>	<b>17,920</b>	<b>17,920</b>	<b>17,920</b>	<b>17,920</b>	<b>17,920</b>
<b>WACC (Weighted average cost of capital)</b>	<b>8.25%</b>	<b>8.25%</b>	<b>8.25%</b>	<b>8.25%</b>	<b>8.25%</b>	<b>8.25%</b>
Debt/equity ratio	0.35	0.35	0.35	0.35	0.35	0.35
Invested equity (beginning of year)	182,000	182,000	182,000	182,000	182,000	182,000
Financial liabilities (beginning of year)	<u>63,000</u>	<u>63,000</u>	<u>63,000</u>	<u>63,000</u>	<u>63,000</u>	<u>63,000</u>
<b>Total invested capital</b>	<b>245,000</b>	<b>245,000</b>	<b>245,000</b>	<b>245,000</b>	<b>245,000</b>	<b>245,000</b>
<b>Capital charge</b>	<b>20,216</b>	<b>20,216</b>	<b>20,216</b>	<b>20,216</b>	<b>20,216</b>	<b>20,216</b>
<b>EVA ® (Economic Value Added)</b>	<b><u>-2,296</u></b>	<b><u>-2,296</u></b>	<b><u>-2,296</u></b>	<b><u>-2,296</u></b>	<b><u>-2,296</u></b>	<b><u>-2,296</u></b>
<u>Valuation at the base year</u>						
<b>Discounted cash flow</b>						
<b>First five years</b>	<b>71,078</b>					
<b>Residual value</b>	<b><u>146,097</u></b>					
<b>Total valuation of invested capital</b>	<b>217,175</b>					
Net financial liabilities	63,000					
Excess assets	0					
<b>Value of the company to its shareholders</b>	<b><u>154,175</u></b>					

## Appendix B: Pro Forma Valuations of the Value Driver's Impact

### Value Driver 1: Increasing the Average Customer Purchase

The value driver is described in Section 4.2.1. The valuation assumes a one-time 5% increase in sales, after which the sales will remain at the same level. The additional costs are estimated at 0.5% of sales, every year. The general assumptions are detailed in Section 4.4.

**Table 5.** Value driver 1 – financial statements summary

	<u>Base year</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Thousands \$						
<b><u>Income statement summary</u></b>						
Sales	700,000	735,000	735,000	735,000	735,000	735,000
Cost of goods sold	<u>512,000</u>	<u>537,600</u>	<u>537,600</u>	<u>537,600</u>	<u>537,600</u>	<u>537,600</u>
<b>Gross profit</b>	<b>188,000</b>	<b>197,400</b>	<b>197,400</b>	<b>197,400</b>	<b>197,400</b>	<b>197,400</b>
<b>Additional costs</b>		<b>3,675</b>	<b>3,675</b>	<b>3,675</b>	<b>3,675</b>	<b>3,675</b>
Sales, General and Administrative	<u>160,000</u>	<u>160,000</u>	<u>160,000</u>	<u>160,000</u>	<u>160,000</u>	<u>160,000</u>
<b>Earnings before interest and taxes</b>	<b>28,000</b>	<b>33,725</b>	<b>33,725</b>	<b>33,725</b>	<b>33,725</b>	<b>33,725</b>
Interest expense	<u>3,150</u>	<u>3,158</u>	<u>3,158</u>	<u>3,158</u>	<u>3,158</u>	<u>3,158</u>
<b>Earnings before income taxes</b>	<b>24,850</b>	<b>30,568</b>	<b>30,568</b>	<b>30,568</b>	<b>30,568</b>	<b>30,568</b>
Income taxes (36%)	<u>8,946</u>	<u>11,004</u>	<u>11,004</u>	<u>11,004</u>	<u>11,004</u>	<u>11,004</u>
<b>Net income</b>	<b><u>15,904</u></b>	<b><u>19,563</u></b>	<b><u>19,563</u></b>	<b><u>19,563</u></b>	<b><u>19,563</u></b>	<b><u>19,563</u></b>
<b><u>balance sheet summary</u></b>						
<b>Current assets</b>						
Accounts receivable	65,000	68,250	68,250	68,250	68,250	68,250
Inventories	<u>43,000</u>	<u>45,150</u>	<u>45,150</u>	<u>45,150</u>	<u>45,150</u>	<u>45,150</u>
	<b>108,000</b>	<b>113,400</b>	<b>113,400</b>	<b>113,400</b>	<b>113,400</b>	<b>113,400</b>
<b>Short-term non-interest liabilities</b>						
Accounts payable	105,000	110,250	110,250	110,250	110,250	110,250
Other current payables	<u>32,000</u>	<u>32,000</u>	<u>32,000</u>	<u>32,000</u>	<u>32,000</u>	<u>32,000</u>
	<b>137,000</b>	<b>142,250</b>	<b>142,250</b>	<b>142,250</b>	<b>142,250</b>	<b>142,250</b>

Table 5. (Continued.)

	<u>Base year</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Thousands \$						
<b>Net working capital</b>	<b>-29,000</b>	<b>-28,850</b>	<b>-28,850</b>	<b>-28,850</b>	<b>-28,850</b>	<b>-28,850</b>
Net property plant and equipment	274,000	274,000	274,000	274,000	274,000	274,000
<b>Total capital required</b>	<b>245,000</b>	<b>245,150</b>	<b>245,150</b>	<b>245,150</b>	<b>245,150</b>	<b>245,150</b>
Short-term bank credit	11,000	11,150	11,150	11,150	11,150	11,150
Long-term debt	52,000	52,000	52,000	52,000	52,000	52,000
Total debt	63,000	63,150	63,150	63,150	63,150	63,150
Shareholders' equity	182,000	182,000	182,000	182,000	182,000	182,000
<b>Total capital resources</b>	<b>245,000</b>	<b>245,150</b>	<b>245,150</b>	<b>245,150</b>	<b>245,150</b>	<b>245,150</b>

Table 6. Value driver 1 – pro forma valuation

	<u>Base year</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Thousands \$						
<b><u>Cash flow available to investors</u></b>						
EBIT (Earnings before interest and taxes)	28,000	33,725	33,725	33,725	33,725	33,725
Taxes on EBIT	10,080	12,141	12,141	12,141	12,141	12,141
<b>NOPAT (Net operating profit after tax)</b>	<b>17,920</b>	<b>21,584</b>	<b>21,584</b>	<b>21,584</b>	<b>21,584</b>	<b>21,584</b>
Depreciation expense	18,000	18,000	18,000	18,000	18,000	18,000
<b>Gross cash flow</b>	<b>35,920</b>	<b>39,584</b>	<b>39,584</b>	<b>39,584</b>	<b>39,584</b>	<b>39,584</b>
Increase (decrease) in Working capital	0	150	0	0	0	0
Capital expenditures	18,000	18,000	18,000	18,000	18,000	18,000
<b>Total gross investment</b>	<b>18,000</b>	<b>18,150</b>	<b>18,000</b>	<b>18,000</b>	<b>18,000</b>	<b>18,000</b>
<b>Cash flow available to investors</b>	<b>17,920</b>	<b>21,434</b>	<b>21,584</b>	<b>21,584</b>	<b>21,584</b>	<b>21,584</b>

Table 6. (Continued.)

	<u>Base year</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Thousands \$						
<b><u>Economic value added calculation</u></b>						
NOPAT (Net operating profit after tax)	17,920	21,584	21,584	21,584	21,584	21,584
WACC (Weighted average cost of capital)	8.25%	8.25%	8.25%	8.25%	8.25%	8.25%
Debt/equity ratio	0.35	0.35	0.35	0.35	0.35	0.35
Invested equity (beginning of year)	182,000	182,000	182,000	182,000	182,000	182,000
Financial liabilities (beginning of year)	<u>63,000</u>	<u>63,000</u>	<u>63,150</u>	<u>63,150</u>	<u>63,150</u>	<u>63,150</u>
<b>Total invested capital</b>	<b>245,000</b>	<b>245,000</b>	<b>245,150</b>	<b>245,150</b>	<b>245,150</b>	<b>245,150</b>
<b>Capital charge</b>	<b>20,216</b>	<b>20,216</b>	<b>20,221</b>	<b>20,221</b>	<b>20,221</b>	<b>20,221</b>
<b>EVA ® (Economic Value Added)</b>	<b><u>=2,296</u></b>	<b><u>1,368</u></b>	<b><u>1,363</u></b>	<b><u>1,363</u></b>	<b><u>1,363</u></b>	<b><u>1,363</u></b>
<b><u>Valuation at the base year</u></b>						
<b>Discounted cash flow</b>						
<b>First five years</b>	<b>85,479</b>					
<b>Residual value</b>	<b><u>176,059</u></b>					
<b>Total valuation of invested capital</b>	<b>261,538</b>					
Net financial liabilities	63,000					
Excess assets	0	<b>Value increase relative to the base year</b>				
<b>Value of the company to its shareholders</b>	<b><u>198,538</u></b>	<b>44,364</b>	<b>29%</b>			

#### Value Driver 4: Shelf Space Management

The value driver is described in Section 4.2.4. The valuation assumes a one-time 4% increase in sales in the second year, after which the sales will remain at the same level. \$500,000 cost in the first year and additional costs estimated at 0.2% of sales as of the second year. The general assumptions are detailed in Section 4.4.



Table 7. Value driver 4 – financial statements summary

	<u>Base year</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Thousands \$						
<b><u>Income statement summary</u></b>						
Sales	700,000	700,000	728,000	728,000	728,000	728,000
Cost of goods sold	<u>512,000</u>	<u>512,000</u>	<u>532,480</u>	<u>532,480</u>	<u>532,480</u>	<u>532,480</u>
<b>Gross profit</b>	<b>188,000</b>	<b>188,000</b>	<b>195,520</b>	<b>195,520</b>	<b>195,520</b>	<b>195,520</b>
<b>Additional costs</b>		<b>500</b>	<b>1,456</b>	<b>1,456</b>	<b>1,456</b>	<b>1,456</b>
Sales, General and Administrative	<u>160,000</u>	<u>160,000</u>	<u>160,000</u>	<u>160,000</u>	<u>160,000</u>	<u>160,000</u>
<b>Earnings before interest and taxes</b>	<b>28,000</b>	<b>27,500</b>	<b>34,064</b>	<b>34,064</b>	<b>34,064</b>	<b>34,064</b>
Interest expense	<u>3,150</u>	<u>3,150</u>	<u>3,156</u>	<u>3,156</u>	<u>3,156</u>	<u>3,156</u>
<b>Earnings before income taxes</b>	<b>24,850</b>	<b>24,350</b>	<b>30,908</b>	<b>30,908</b>	<b>30,908</b>	<b>30,908</b>
Income taxes (36%)	<u>8,946</u>	<u>8,766</u>	<u>11,127</u>	<u>11,127</u>	<u>11,127</u>	<u>11,127</u>
<b>Net income</b>	<b><u>15,904</u></b>	<b><u>15,584</u></b>	<b><u>19,781</u></b>	<b><u>19,781</u></b>	<b><u>19,781</u></b>	<b><u>19,781</u></b>
<b><u>balance sheet summary</u></b>						
<b>Current assets</b>						
Accounts receivable	65,000	65,000	67,600	67,600	67,600	67,600
Inventories	<u>43,000</u>	<u>43,000</u>	<u>44,720</u>	<u>44,720</u>	<u>44,720</u>	<u>44,720</u>
	<b>108,000</b>	<b>108,000</b>	<b>112,320</b>	<b>112,320</b>	<b>112,320</b>	<b>112,320</b>
<b>Short-term non-interest liabilities</b>						
Accounts payable	105,000	105,000	109,200	109,200	109,200	109,200
Other current payables	<u>32,000</u>	<u>32,000</u>	<u>32,000</u>	<u>32,000</u>	<u>32,000</u>	<u>32,000</u>
	<b>137,000</b>	<b>137,000</b>	<b>141,200</b>	<b>141,200</b>	<b>141,200</b>	<b>141,200</b>
<b>Net working capital</b>	<b>-29,000</b>	<b>-29,000</b>	<b>-28,880</b>	<b>-28,880</b>	<b>-28,880</b>	<b>-28,880</b>
Net property plant and equipment	<u>274,000</u>	<u>274,000</u>	<u>274,000</u>	<u>274,000</u>	<u>274,000</u>	<u>274,000</u>
<b>Total capital required</b>	<b><u>245,000</u></b>	<b><u>245,000</u></b>	<b><u>245,120</u></b>	<b><u>245,120</u></b>	<b><u>245,120</u></b>	<b><u>245,120</u></b>
Short-term bank credit	11,000	11,000	11,120	11,120	11,120	11,120

Table 7. (Continued.)

	<u>Base year</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Thousands \$						
Long-term debt	<u>52,000</u>	<u>52,000</u>	<u>52,000</u>	<u>52,000</u>	<u>52,000</u>	<u>52,000</u>
Total debt	63,000	63,000	63,120	63,120	63,120	63,120
Shareholders' equity	<u>182,000</u>	<u>182,000</u>	<u>182,000</u>	<u>182,000</u>	<u>182,000</u>	<u>182,000</u>
<b>Total capital resources</b>	<b><u>245,000</u></b>	<b><u>245,000</u></b>	<b><u>245,120</u></b>	<b><u>245,120</u></b>	<b><u>245,120</u></b>	<b><u>245,120</u></b>

Table 8. Value driver 4 – pro forma valuation

	<u>Base year</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Thousands \$						
<b><u>Cash flow available to investors</u></b>						
EBIT (Earnings before interest and taxes)	28,000	27,500	34,064	34,064	34,064	34,064
Taxes on EBIT	<u>10,080</u>	<u>9,900</u>	<u>12,263</u>	<u>12,263</u>	<u>12,263</u>	<u>12,263</u>
<b>NOPAT (Net operating profit after tax)</b>	<b><u>17,920</u></b>	<b><u>17,600</u></b>	<b><u>21,801</u></b>	<b><u>21,801</u></b>	<b><u>21,801</u></b>	<b><u>21,801</u></b>
Depreciation expense	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>
<b>Gross cash flow</b>	<b><u>35,920</u></b>	<b><u>35,600</u></b>	<b><u>39,801</u></b>	<b><u>39,801</u></b>	<b><u>39,801</u></b>	<b><u>39,801</u></b>
Increase (decrease) in Working capital	0	0	120	0	0	0
Capital expenditures	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>	<u>18,000</u>
<b>Total gross investment</b>	<b><u>18,000</u></b>	<b><u>18,000</u></b>	<b><u>18,120</u></b>	<b><u>18,000</u></b>	<b><u>18,000</u></b>	<b><u>18,000</u></b>
<b>Cash flow available to investors</b>	<b><u>17,920</u></b>	<b><u>17,600</u></b>	<b><u>21,681</u></b>	<b><u>21,801</u></b>	<b><u>21,801</u></b>	<b><u>21,801</u></b>

Table 8. (Continued.)

	<u>Base year</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Thousands \$						
<b><u>Economic value added calculation</u></b>						
NOPAT (Net operating profit after tax)	17,920	17,600	21,801	21,801	21,801	21,801
WACC (Weighted average cost of capital)	8.25%	8.25%	8.25%	8.25%	8.25%	8.25%
Debt/equity ratio	0.35	0.35	0.35	0.35	0.35	0.35
Invested equity (beginning of year)	182,000	182,000	182,000	182,000	182,000	182,000
Financial liabilities (beginning of year)	<u>63,000</u>	<u>63,000</u>	<u>63,000</u>	<u>63,120</u>	<u>63,120</u>	<u>63,120</u>
<b>Total invested capital</b>	<b>245,000</b>	<b>245,000</b>	<b>245,000</b>	<b>245,120</b>	<b>245,120</b>	<b>245,120</b>
<b>Capital charge</b>	<b>20,216</b>	<b>20,216</b>	<b>20,216</b>	<b>20,220</b>	<b>20,220</b>	<b>20,220</b>
<b>EVA ® (Economic Value Added)</b>	<b><u>-2,296</u></b>	<b><u>-2,616</u></b>	<b><u>1,585</u></b>	<b><u>1,581</u></b>	<b><u>1,581</u></b>	<b><u>1,581</u></b>
<b><u>Valuation at the base year</u></b>						
<b>Discounted cash flow</b>						
<b>First five years</b>	<b>82,494</b>					
<b>Residual value</b>	<b><u>177,811</u></b>					
<b>Total valuation of invested capital</b>	<b>260,304</b>					
Net financial liabilities	63,000					
Excess assets		<b>Value increase relative to the base year</b>				
<b>Value of the company to its shareholders</b>	<b><u>197,304</u></b>	<b>43,130</b>	<b>28%</b>			