

CHAPTER 2

Business Analytics at the Strategic Level

This is the first of five chapters that describe the business analytics (BA) model. The chapter focuses on the strategic level and is primarily written for those who deliver or request information in connection with the development of business strategies.

We present a number of scenarios that have a varying degree of coordination between the development of strategies in a company and the role of BA. While reading the scenarios, reflect on where your organization is based on these perspectives. Similarly, consider where in this context your strategies fit. It also makes sense to consider whether the organization has understood and achieved the full potential inherent in BA and, if not, whether more effort should be put into driving the deployment of BA. Other angles from which to read this chapter are: Where are my competitors today? What kind of market will we be operating in five years from now? And, if the market is significantly changed compared to today, do we intend to lead or follow the competition on the information front?

The focus of this chapter is therefore not on how to develop a business strategy; many other books describe this very well. Instead, our aim is to demonstrate important relationships between overall

business strategies and the information that the BA function can deliver in this context. Behind all the discussions, there are always the two key questions: How can the BA function influence the overall strategy process in the organization? How does the overall business strategy subsequently influence the BA function?

LINK BETWEEN STRATEGY AND THE DEPLOYMENT OF BA

To facilitate our discussion of various degrees of integration between strategy and BA functions, we'll offer an outline of the concept of strategy and how it is created. A *strategy* is a description of the overall way in which a business is run. It typically covers a year at a time. Its purpose is to adapt the organization's business area, resources, and activities to the market in which the organization operates. As a rule of thumb, a strategy attempts to handle company issues in the short run while at the same time trying to create competitive advantages in the long run. To be concrete, strategy is developed by defining a number of specific and measurable targets to be achieved by individual parts of the organization. The specified targets are often supported by some expectations—which can be more or less precise—as to how the individual department should achieve these targets.

The strategy process usually runs once a year, and will often contain a substantial element of adaptation of last year's strategy in relation to new circumstances and expectations for next year. Of course, this will vary between different types of businesses and markets. Sometimes an organization will develop a strategy from scratch, but this usually happens only as part of a complete change of leadership, or if an organization decides that the old strategy has failed or is no longer viable. A strategy development process is a mixture of analyses, each of which is based on different data sources or methods or both. Our focus is business analytics, and we will therefore focus on the delivery of information based on data from a data warehouse.

In a strategic or overall management context, information is used to change and coordinate business procedures in the other functional areas of the organization. The reason for our use of the word *coordinate* is that strategic management should not be seen as a number of *serial*

actions, but rather as a number of *parallel* actions, in a number of departments, that must be coordinated.

It is sometimes said that strategy is like bringing up children—it is not essential that you always do the right thing, but it is essential that you are consistent. This means that it is essential to coordinate the activities in the organization so that they are all moving in the same direction. A strategy development process has a purpose: to update a number of elements such as the company's vision, which is about long-term goals, and to update its mission, which is a brief outline of how management intends to achieve these goals. A strategy should represent not only the general plans for how to act in the next few years but also some targets that, specifically and expressed in numbers, describe the results of the strategy over the next period of time.

STRATEGY AND BA: FOUR SCENARIOS

In the following sections, we present four scenarios that illustrate different degrees of integration between the BA function and the company's strategy. The purpose of these scenarios is to prompt the reader to consider where his or her organization is in relation to these scenarios. The scenarios can also give some insights into whether the organization has understood and achieved the full potential inherent in BA, and thus whether more effort should go into optimizing and maturing the deployment of BA.

Exhibit 2.1 shows an outline of the four scenarios. The way we describe the link between strategy and BA will also constitute the basis of the rest of this chapter.

Scenario 1 is “no formal link between strategy and BA.” Companies that are separated in their strategy, without data or with limited data distributed over a large number of source systems, are typically unable to make a link between corporate strategy and BA. In these companies, data is not used for decision making at a strategic level. Instead, data is used in connection with ad hoc retrieval for the answering of concrete questions along the way, but without any link to business strategy. Many companies have realized that they do not have the data, the staff, or the technology to perform the task. Seen from a strategic perspective, a maturing process could be initiated.

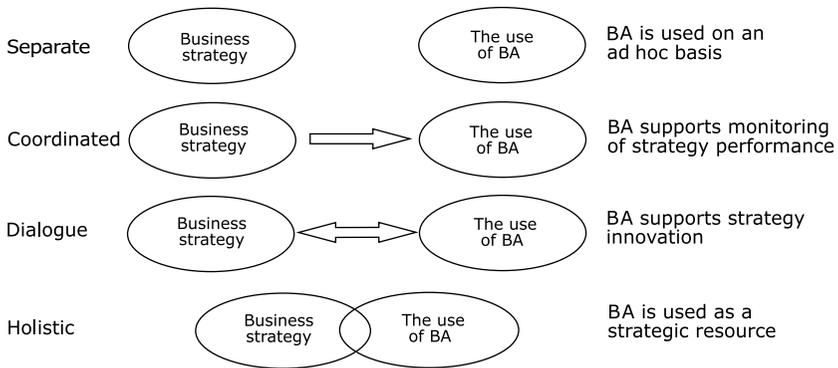


EXHIBIT 2.1 Link between Strategy and BA

Alternatively, the company just continues with a business strategy that is not based on information.

Scenario 2 is “BA supports strategy at a functional level.” If companies, in connection with the implementation of a strategy, request that the BA function perform monitoring of individual functions’ achievement of targets, we have coordination between strategy and BA. However, if there is no flow back from BA to the strategic level, then the BA function is reactive in relation to the strategy function. In this case, the role of BA is merely to produce reports supporting the performance of individual departments.

Scenario 3 is “dialogue between the strategy and the BA functions.” If the organization makes sure that individual functions optimize its behavior based on BA information, but that the strategy function, too, takes part in the learning loop, we’ll get a BA function that proactively supports the strategy function. A learning loop is facilitated when the BA function is reporting on business targets *and* is providing analyses as well as differences between targets and actuals, with the objective of improving both future strategies and the individual departments’ performance.

Scenario 4 is “information as a strategic resource.” The characteristic of the fourth scenario is that information is being treated as a strategic resource, which can be used to determine strategy. Companies that fit this scenario will systematically while analyzing the opportunities

and threats of the market think how information, in combination with their strategies, can give them a competitive advantage.

The four phases represent a maturity, ability, and willingness to work with information on different levels. We can't really say that one level is better than another. The appropriate level must be chosen based on a strategic perspective. In some industries, BA information is not essential to business success, while in others it will be a central competitive parameter. Sometimes, as in Scenario 1, it's a simple matter of realizing that the company does not possess the data, the staff, or the technology to perform the task. Seen from a strategic perspective, the option exists to take steps toward the next phase, or to choose an alternative business strategy that is less information dependent.

Scenario 1: No Formal Link between Strategy and BA

The first type of link between the deployment of BA and strategy is the absence of any link. It is in itself a surprising notion that this can be the case. But the most common explanation is that, when developing their strategy, companies often focus on the most visible aspects, such as sales targets, production targets, or cost targets in connection with procurement. In relation with the achievement of these targets, the sales department, production, and procurement will be faced with targets based on the business strategy. However, a company consists of many other functions such as HR, finance, product development, strategy, competitive analysis, administration, and BA. These functions are called *support functions* because they are not adding value in connection with the daily production. However, if they did not exist, the company would encounter problems in the long run.

From a strategic perspective the supporting functions are of course expected to support the primary and value creating processes. This may happen when the support functions themselves interpret the business strategy in their daily activities, but more often by the owners of the primary processes placing demands on services from the support functions based on their targets. So when we describe a scenario with no link between strategy and BA, it is not a question of completely uncoordinated entities, but rather a case of a filter existing between them. A filter may exist because it is primarily the individual processes

owners on an ad hoc basis and not the strategy that defines which information is to be generated by the BA function.

The consequence of the filter is that the BA function prioritizes its tasks according to what best serves the daily target achievement of the company instead of what is best for long-term strategic projects. Moreover, the BA function tasks are performed based on the driving force of different users requesting information. In terms of reporting, this will result in the development of more or less authorized reports with inconsistent presentations of the business that they are describing. All in all, the quality of BA in this type of organization will typically be an assessment of how quickly a question is answered and how well-founded the answer is.

Other reasons why there is no formalized link between the strategy and the BA functions may be that the right conditions simply do not exist. There are situations, such as small businesses with one or few customers, where the cost of running a data warehouse is bigger than the value of the decision support created. And there are companies that define their strategic targets in a way that is not measurable. If, for instance, a company defines a target to be “we need to establish better relations with our suppliers,” then that may be difficult to quantify. Because this definition does not tell us what to measure, we must ask: Is it the number of complaints, average time per transaction, or the quality of their deliveries that are to be improved via this new strategy?

Scenario 2: BA Supports Strategy at a Functional Level

The second scenario represents what we call an *adapted information strategy*. Here the BA function is a reactive element, solely employed in connection with the monitoring of whether the defined targets of the strategy are achieved. We have illustrated this process in Exhibit 2.2. The recipients of these reports or key performance indicators (KPIs) are the individual departments, which means that there is no feedback to the strategic level. The BA function supports company performance proactively, but only reactively in terms of company strategy. There may be a formalized dialogue between individual functions and BA, but the relation to the strategy function is formalized as a monologue, from strategy to BA function.

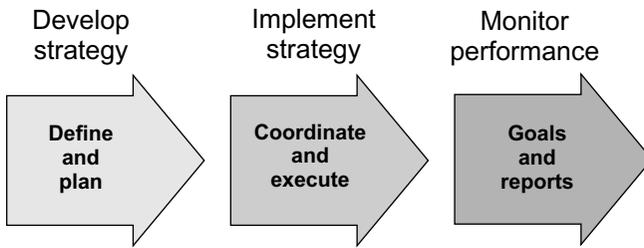


EXHIBIT 2.2 BA Supports Performance

In terms of the quality of BA in such an organization, it's important to be good at defining targets based on strategy. These are targets that relate to each other internally and that, combined, make up a whole. It is equally important that the BA function is technically competent when it comes to operationalizing these targets via reports and making those reports both accessible to users and also full of the most updated information possible.

Based on a strategy development process, individual departments define a number of specific requirements, or targets, they are to achieve. Sometimes a target will simply be given to the sales department: It must increase revenue by 10% over the previous year. Alternatively, the department may be given additional information about which segments to grow and with which products. There may also be a message that this must be brought about in cooperation with other departments, such as marketing. Based on the given targets, it will then be up to the individual functions—with various degrees of autonomy—to decide how they are going to achieve these targets.

We have illustrated this process in Exhibit 2.3, where a substrategy for HR is developed. In this case, the requirement from the company's overall strategy could be to reduce absence due to illness by 10%. How to achieve this will not necessarily be specified. Consequently, the HR department itself will have to come up with an HR strategy that specifies how it intends to meet the target and a deadline for its achievement given by the company's strategy. In the same way, a substrategy needs to be developed for customer relationship management (CRM), the CRM strategy, and a substrategy for the production department, the production strategy.

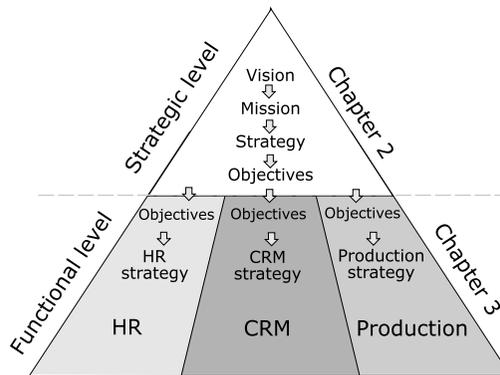


EXHIBIT 2.3 The Relationships between Strategic Level and Functional Level

Five Requirements for Targets

It is important to determine what information may be relevant to the company when developing its strategy and when monitoring whether this strategy is being achieved. In connection with the monitoring of the strategy, a number of targets to be achieved are outlined. These targets may be few and general, and it will then be up to the individual departments to define who will be doing what. In other cases, the targets will be specified in great detail and the departments will have little room for maneuvering. It applies to all targets, however, that there are some formal requirements that they must meet. These are basic requirements to ensure that measurements can be operationalized. For when is it that we must expect to see the increase in the number of our customers by 20%? How do we define our customers? If, halfway through the year, we see an increase of our customer base of only 8%, is that then a problem or to be expected? We also need to ensure that if we find targets that look as if they will not be achieved, we can actually pinpoint the person responsible, who can then react to this information. Five updated target requirements follow. Some of the requirements are necessary for the technical establishment of benchmarks; others are concerned with who must take action if the benchmarks deviate in a critical way from the specified targets. The requirements we make to benchmarks are that they must be:

- **Specific:** Targets, such as how many customers we must have by the end of the year, what our revenue must be, by how much we must reduce delivery times, and so forth.
- **Measurable:** If it's not measurable, it's not a relevant target. If we do not know how many customers we have, we need to find another target. If it's not possible to allocate revenue and costs to the processes we want to improve, we need to establish some other targets.
- **Agreed:** The organization must accept the targets. If this is not the case, there is no ownership and the organization is about to implement a strategy that, at best, will be ignored or, at worst, will be counteracted. It is implicit, too, that accepted targets mean that we have some specific individuals who are directly responsible for the given targets.
- **Realistic:** Targets must be realistic. Often, targets are accepted without standing a chance of being achieved. This may have something to do with the corporate culture, maybe someone is trying to buy time, or that there are no consequences involved in not achieving the targets.
- **Time-bound:** What is the deadline for reducing costs to a certain level and raising customer loyalty up a level? It's also important that we are able, at an early stage, to determine that targets are not being achieved as expected in order that we can make corrections.

If you put the initial letters of the five words together, you get the acronym SMART. Note that the business literature might offer some variations in the meaning of the five words, but the underlying concepts are the same as those given here.

There are a number of business reasons as to why objectives need to be SMART. Seen in a BA context, objectives need to be specific, measurable, and time-bound so that they can be defined and operationalized in the first place. If they are not, we won't know, when implementing the technical solution, which information to collect and calculate so that it describes the overall objective of the desired process. If the objectives are not measurable, we cannot quantify them

technically and thus measure them on an ongoing basis. Likewise, objectives need to be time-bound if an information system is to be able to deliver messages to users, when critical values are exceeded.

In a broader business context, the five requirements work to ensure a clear-cut understanding of the basis of business initiatives. If objectives are not specific, they may be interpreted differently, which leads to different versions of the truth. If objectives are not measurable, people will start debating whether customers are loyal enough. If you do not have ways of measuring something, you must create ways of measuring it—just like in the radio station case study in Chapter 1. For technical reasons, too, it's essential that benchmarks be time-specific, since the entire establishment of a data warehouse is about relating pieces of information and creating a historic view. If we are to deliver efficient reporting, the time dimension must be clearly defined. We prefer to automate the measuring via a data warehouse, so that users on a continuous basis can retrieve data about the achievement of targets. However, customer information, such as “brand awareness,” will typically be distributed through reports. Consequently, we do not need to be able to retrieve all objectives from a data warehouse, but it's generally preferred, because it means that there will only ever be one version of the truth, and that this truth can be delivered whenever users so desire and in an aggregated form.

Scenario 3: Dialogue between the Strategy and the BA Functions

The third scenario is based on the existence of an established data warehouse to integrate and store data, as well as an established BA function with analytical competencies to make use of this data. We are typically looking at a significant investment in software and employees. This scenario is also characterized by a continuous dialogue between the strategy and the BA functions. The reporting methods used at this level for the managing and measuring of operational processes now begin to have different names such as business performance management (BPM) systems, scorecards, and customer profitability/segment analyses. This signifies that a flow

of information is going back to the strategy function based on the created reports.

The information described in this section is feedback information from scorecards and BPM solutions. These types of solutions are normally cyclical and start with a strategy. Based on the strategy, three things occur: benchmarking is carried out; there is then an ongoing measuring and analyzing of deviation from targets; and finally, based on the analyses, the strategy is adapted and optimized. We will take a closer look at this in this chapter's section "Corporate Strategy's Subsequent Requirements to BA." Quality for the BA function in this scenario is the ability to deliver relevant information to the strategy function. This is done in order that the strategy may be adapted on an ongoing basis for the organization to accommodate changes in the market and within the organization itself. When reports are produced describing whether individual departments are meeting their KPIs, action will, of course, be taken if any major deviations between targets and the achievements are shown. There will therefore always be some form of feedback between target achievement and strategy, although this feedback process may be more or less formalized. An example of the conceptualization of the feedback processes is found in corporate performance management (CPM) and score carding. As Exhibit 2.4 illustrates, this is an ongoing cycle, where the enterprise as its starting point has defined a strategy to be implemented in the various departments that make up the business. Coordination is performed by identifying the so-called *critical success factors*, which are the elements that are essential to whether the strategy is successful, and making sure that they are coordinated. This is typically done via internal meetings across functions. It is at this stage, too, that we define who is responsible for the various KPIs, and thus who must react to these and in what way.

When the strategy is set in motion, progress is measured on an ongoing basis. Generally speaking, KPIs are rarely hit accurately, but rather a bit over or under. In both cases, learning can be derived based on analyses. Did we overlook any potential opportunities, or do we perhaps lack certain competencies in the organization? An optimization of the strategy takes place when we use this learning to improve our business processes and thereby ensure that the organization

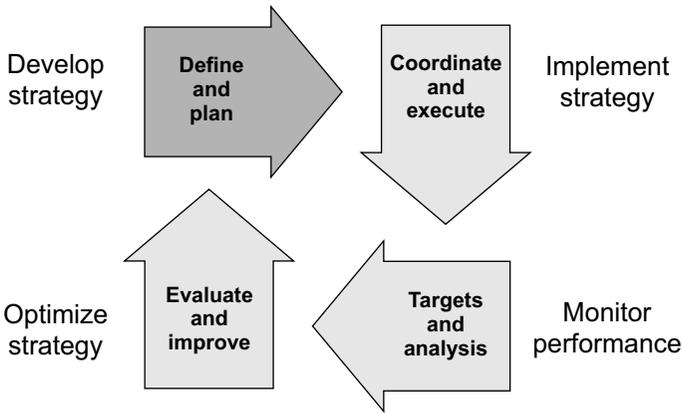


EXHIBIT 2.4 Feedback Processes and Learning at the Strategic Level

maintains its agility between the annual strategy processes. And experiences from previous strategy iterations can contribute to create learning in terms of the strategy for the coming iteration.

An alternative way of operationalizing strategic feedback processes is via the “balanced scorecard,” a method introduced in the early 1990s. It connects corporate strategy with the internal processes that will be realizing them, connects it with customer loyalty and, finally—and this was the new thing—with the organization’s internal competencies. What the balanced scorecard achieves, therefore, is to link the primary production processes to the development of the business. If we cannot produce enough, do we then employ more people or different people, or do we establish a dialogue with our employees and on that basis reward them differently? The method, which was developed by Kaplan and Norton, represents a cornerstone for how to formulate requirements in connection with the implementation of a new strategy.

Scenario 4: Information as a Strategic Resource

The fourth scenario is about information being regarded as a strategic resource. Such enterprises are characterized by using their analyses of market strengths and weaknesses by systematically thinking about how this information, combined with their strategies, can give them a competitive advantage. As illustrated by Exhibit 2.5, this is less about

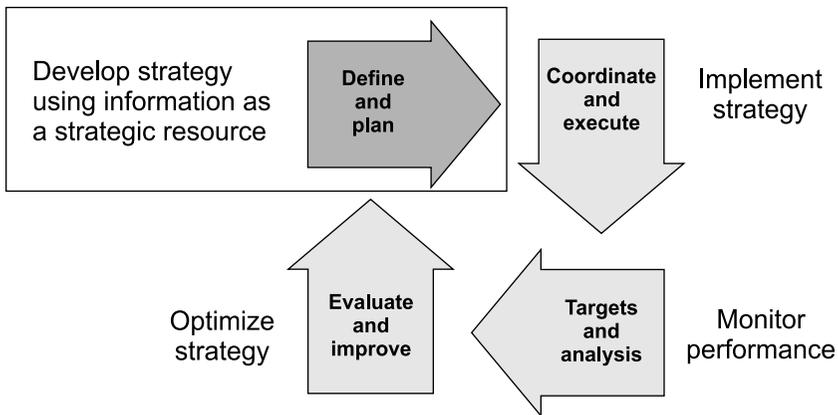


EXHIBIT 2.5 Information as a Strategic Resource

technical solutions and more about people competencies that are required in the strategy development process. In some cases, this may mean that the enterprise needs to ensure it has staff with both strategic and information knowledge represented at the top management level. This is not an altogether surprising conclusion, considering that we live in the age of information.

A typical example of an enterprise that focuses on information as a strategic resource is Amazon.com, which sells books via the Internet. Here information is saved about the individual customer's purchases and requests, and these are then processed, with the result that customers are subsequently greeted with offers that are relevant and of service to them. This is a case of improving the relevance of offers to customers based on information, which differentiates Amazon.com in a positive way from other Internet-based book shops. This trend is emerging among certain retail chains, too, where the segmentation of customers means that services can be customized to local conditions. Moreover, we see a growing sale of information from shops to the manufacturers of the goods sold in the shops. This information describes which types of people buy their products, how price-sensitive the products are, which products are typically sold together, and so forth. This feedback constitutes essential information for manufacturers in terms of product development, pricing, and promotion in the right places with the right messages.

You can distinguish strategies created by a company that uses information or data as a strategic asset by looking at certain elements of its strategy. If a company does not use information as a strategic asset, it will not, in the strategic implementation plans, have descriptions of how the competitive advantages should be gained via the use of information. If a company does use information as a strategic asset, then next to the objectives of the strategy it will also provide directions of how the objectives should be reached via the use of information.

You can also recognize an organization that uses information as a strategic asset on its culture, where the employees, according to our research, intuitively will think proactively in terms of how they can use information to overcome, for example, a new competitive situation. This sort of a culture will use the information as a strategic asset as a result of a top-down process as well as a bottom-up process. This means that if one region learns to improve its processes via the use of information, the news will be captured by the strategy team, and spread as a best practice to the rest of the organization as a result of the next strategy creation process.

In Chapter 3, which focuses on business analytics at the functional level, we present a case in which the strategy at the functional level is largely managed on the basis of data warehouse information. Quality in this context is, therefore, being able to understand how the use of information can provide enterprises with an advantage in terms of key competitive parameters. Information at a strategic level must therefore be understood centrally in connection with the strategy development process and throughout the organization where the implementation is carried out. Nonprofit organizations need to consider *how* information is used and regard it as a central leverage in terms of the performance of tasks, which are defined in the organization's objectives and strategy. As previously discussed, the use of information as a strategic resource is first about identifying central competitive parameters, and second about understanding how this information can ensure that the enterprise differentiates itself from its competitors. We have chosen to introduce a tool that will help you determine which information is going to support your organization's business-critical initiatives, as well as provide you with a number of examples of how this works in specific terms.

WHICH INFORMATION DO WE PRIORITIZE?

The BA function needs to deliver information to the strategy development process. Naturally, it's not always possible to know exactly and at all times which information to deliver. However, based on an analysis of which competitive parameters an enterprise experiences in the market, we can tell which type of information to focus on. That is not to say that any information can be ruled out as irrelevant in advance, but in a world of constant decisions on focus and the prioritization of tasks due to limited resources, some information will have an obvious priority.

We have been inspired by Treacy and Wiersema's article from 1993, "Three Paths to Market Leadership." Treacy and Wiersema describe how any enterprise, in principle, can become a market leader if it masters one of the following three disciplines and matches its competition on the two others.

The first discipline is about being strong in the field of product innovation and being a leading supplier of "state of the art" products. One example of this could be when Sony first launched its Walkman or, at the time of writing, its Blu-ray technology. The second discipline is about having strong customer relations, that is, about being able to establish a psychological connection to customers. Apple seems to have this ability, which causes some buyers to have a near-religious relationship with the brand. Another example is Telecom Enterprises, with their customer loyalty programs which attempts to strengthen the relationship between the individual customer and a commercial organization. Finally, we have the operational excellence discipline, which is about being efficient in relation to production and delivery services, and which always focuses on optimizing internal processes. In Exhibit 2.6, the enterprise has no clear focus on any of the three value disciplines, though with some preference to the Customer Intimacy approach to the market.

In the real world, however, businesses do not just compete on one of these parameters, but on a combination of all three. Therefore, when analyzing one's business, it's a good exercise to consider how much focus is given to each of the three strategies, and thus receive an overview of which information structure best supports corporate strategies.

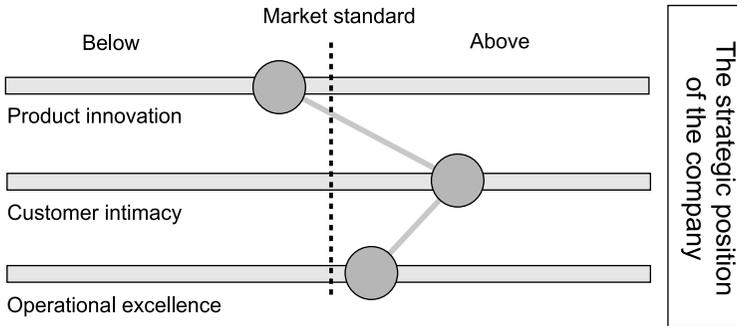


EXHIBIT 2.6 The Three Disciplines for Market Leadership

In Exhibit 2.6, we’ve included something called *market standard*. This obviously depends on how you define your market. Does iPhone belong to the consumer gadgets market or the telephone manufacturers market? The answer to such a question may be given via the business’s mission, which defines the market and how the enterprise should be differentiated, but in the end it does come down to a subjective evaluation. Based on this, the business obtains an image of the competition and thereby some kind of market standard.

In the following section, we explain the three disciplines (perspectives) in more depth and we look at the information that the BA function needs to deliver to support these. In relation to the four scenarios, we are definitely in the third one, where the BA function delivers information to the strategy function. We might be in the fourth scenario as well, but this depends entirely on whether the people responsible for the development of strategies understand and uses the scope and potential of BA while developing future strategies.

The Product and Innovation Perspective

This perspective is highly prioritized by enterprises that act based on “product innovation” or “product leadership” strategies, that is, businesses that adopt as their central competitive parameter that their products and services can be characterized as “state-of-the-art.” Focus is therefore typically on technological aspects and all the things their products are able to do. These are usually enterprises delivering

technical sales to specialists. Examples include server solutions, data warehouse solutions, road paving, and windmills.

The knowledge these businesses normally use to differentiate themselves in the market is therefore closely linked to technological knowledge about product development and, to a lesser extent, to knowledge about customer behavior (customer intimacy strategy), or knowledge about how to efficiently produce and deliver services and products (operational excellence strategy). Note that we will be mentioning and discussing some statistical methods throughout the rest of this chapter, these statistical methods will all be presented in greater detail in Chapter 4. Moreover, keep in mind that the analyses presented in this book are primarily built on data warehouse information. One analysis that will always have priority is which products deliver the highest revenue, since this is key to the development of future strategies. In other words, you look at the sales price and deduct all direct costs related to manufacturing and distribution as well as the sales and marketing of the product. Development costs are not taken into consideration here, since attention is given to analyzing internal operational processes.

The purpose of this exercise is to shift focus from the number of sold units of different product types and onto the products that deliver profit. Moreover, the profit per product unit will be an important input for further analyses from the product and segment perspective.

In the market, analyses are prepared by enterprises on a continuous basis, and models are developed to describe the state of the current market, as well as how this market can be expected to change in the future. Combined with forecasting models for individual products, this can give some useful estimates of where revenue will be earned in the future. These analyses should be supported by the historical knowledge, too, which we stored from the life cycles of comparable products, information that can be expected to be delivered by a data warehouse. A further dimension of the analytical process is that it is possible, based on the data warehouse information, to examine the development of customer segments. One potential analysis would be looking at which customer segments buy which products, as well as the development of these segments. This analysis can then be broken down on countries, chains, brands, and so on. Often businesses do not just sell one product or service per customer. Some software packages consist of a number

of optional modules. Another example is car sales. Special rims cost extra, and the customer can choose not to buy them. Mobile subscriptions typically offer a large number of optional products, a guarantee never to have to pay more than a certain amount per month, favorite numbers that you can ring for less, insurance for the phone, and so forth. The analyst must not only compute the profitability of individual products, but also include any cross-sales related to the product.

If the assumption is that you are serving only one customer segment, you have several techniques to uncover customers' multiple-purchase patterns. Correlation analysis can use statistics to prove whether there are, between any two services on offer, any positive or negative purchasing tendencies, and thereby show whether the products are complementary or substituting. Principal component analyses (also known as PCA or explorative factor analysis) are able to provide information about how many multiple-purchase patterns there are as well as describe them. We are not looking only at whether products are sold in twos. A multiple-purchase pattern can include five products that are sold together.

If we are working with large numbers of different products (let's say more than 100), data mining techniques will start to become the most interesting ones. The methods are called everything from basket analysis to cross-sales analysis. The technique is based on uncovering which products are sold together. The underlying methodology is based on the same mind-set as a correlation analysis and involves a simple counting of how often two products are seen together as a multiple purchase on the same receipt or under the same customer number in the data warehouse.

The knowledge these analyses bring to the strategic planning process is the basic information that describes which products secure earnings (not revenue), and where investment in technology seems to be rendering a positive return estimated over the entire lifetime of the product.

When we begin to relate products to each other, knowledge is created about which basic needs we meet for our customers. Products are positioned in relation to each other, in connection with future marketing initiatives. If it's a matter of whether products can be integrated into each other, such as phones with cameras, GPS units and entertainment, or software packages such as Microsoft Office (spreadsheets,

presentation programs, and word-processing programs), then these analyses also provide us with input for future product development.

Furthermore, these multiple-purchase patterns tell us something about our customers' needs and, as such, provide us with a basis for segmentation based on needs. Are our customers, for instance, buying large aluminum rims for their cars, or are they buying safety such as airbags and fire extinguishing equipment? The additional purchases meet different needs, which means that we should not be using the same sales strategies for all customers. So if a business is serving several segments, a cluster analysis is an obvious choice. Cluster analyses serve two purposes, first to identify how many segments a business is serving, and second to identify their characteristics. Whereas before it would make sense to discuss whether a multiple-purchase analysis is a natural part of strategy development, a cluster analysis would constitute a natural part of the identification and description of the customer groups a business is serving.

Once the segments are identified, we can compare their historic development with analyses of the future, and come up with estimates of what our customer mix will look like in the years ahead. Moreover, we will be able to estimate earnings from the different segments and in this way prepare strategic plans for who we want to serve in the future—and with which products and services.

Customer Relations Perspective

This perspective will typically be essential to enterprises with a focus on maintaining good customer relations. Banks, insurance companies, and telecoms, for instance, which are in markets with high degrees of penetration, are all good examples. Enterprises with a high degree of penetration must retain existing customers and at the same time attract customers from the competition. Their focus is customer loyalty. We will discuss this perspective in more detail in the CRM section of Chapter 3.

Other types of enterprises focus on using customer information actively as well. Examples are Apple, Nokia, Nike, and Coca-Cola. They usually have less transactional information about their customers than, say, banks, and the relationship is based to a lesser extent on a

formal status, such as a subscription. The relationship is more of a psychological bond or a brand, if you will. A brand is used to wrap physical products in positive emotions to strengthen customer loyalty. These enterprises typically work with market information generated by “market intelligence.” Information is typically collected for the occasion, often via external partners, competitor monitoring, and questionnaires. So it is not usually information stored in a data warehouse.

The big difference between the product perspective and the customer perspective is whether analyses are prepared based on products or customers. The analytical base table, which is the dataset underlying the analysis in its least aggregated form when looking at products, has as many rows as the business has active subscriptions. Further, their unique characteristic will, for instance, be their phone number. For the same telecom company, the analytical base table will have as many rows as the business has customers, if the analysis took its point of departure in the customer perspective. The difference here is that one customer may have several phone numbers. Just as we would group subscribers under a product name in connection with a product perspective, we would group customers in segments, if our base table were to support a customer perspective.

In other words, the enterprise needs to know which customers buy which products, to be able to prepare its analyses based on a customer perspective. If we imagine that we are a supermarket and the only electronic information we have is which products are sold together, we can prepare analyses based only on a product perspective, assuming we are working only with data warehouse information. This is why so many retail stores offer customer loyalty cards; it gives the business a possibility of carrying out analyses across several purchases in several stores linked via a customer code, which effectively makes the analysis customer oriented.

With an analytical base table, an obvious first exercise will be to perform a value-based segmentation. The result of such an analysis is a breakdown of customers in segments of gold, silver, and bronze or high, medium, and low. The breakdown is relevant because it forms the basis for how to treat customers. The most valuable customers must be retained, the middle ones must be grown via added sales activities, and the least valuable—who often cost the company—must not constitute

an obstacle to other customers. Meanwhile, relationship costs to this group must be minimized. Strategically this analysis is central, too, as it is based on this information that the two most important objectives are to be defined. First, how big do we want the customer base to be by the end of next year, and second, how big must average sales be per customer, which is the income basis for a typical business?

Other types of segmentations that may be relevant in connection with strategic development processes are based on demand and behavior, respectively. These segmentations are prepared based on product information and transactions over time. They are typically performed for marketing purposes and are often supplemented by market analyses. They are, however, still essential in a strategic context, because they are the ones that tell the organization which trends are experienced in the marketplace. At the same time, the service offerings must be updated based on customer needs and adapted to the future, which is one of the important reasons for developing a strategy. Segmentation can, of course, also build on information about age, gender, geography, and education. But it is important to note that these so-called socio-demographics do not tell us anything about customer needs.

Only needs-based segmentation delivers this. When it has been performed, sociodemographics can be added to see what is characteristic of the individual segments. This enables the enterprise to ensure that the adopted method of communication to the various segments is appropriate. And this is the whole idea of segmentation, that is, to target marketing activities based on the disclosed needs of the segments, an action that delivers the opportunity to optimize the effect of every marketing dollar spent.

Customer lifetime value represents a new type of information that has great potential as a contributor to improved decision making at the strategic level. The concept originates from CRM and can be found by asking: "How much can I expect to earn from a given customer in the time he or she is with me?" This can be calculated as:

$$\text{Average earnings per month} \times \text{number of months the customer} \\ \text{is with me} \div \text{the costs of obtaining the customer}$$

So-called churn predictive decision trees can provide us with this exact information. These trees are based on data mining models, which can

calculate the risk of each individual customer leaving a company. Based on these models, algorithms can be employed to divide the customer base into different groups based on whether they are going to leave the business within a given period of time. (We describe this technique in more detail in Chapter 4 in the section about data mining.) The gist is that an enterprise can use these models to determine the probability of a customer canceling his or her relationship with the enterprise with a certain percentage, which delivers information about a customer's life expectancy. We therefore know both the average income from and the life expectancy of the customer, and can make a rough estimate of the life expectancy value of the customer, by multiplying the two. With regard to the costs involved in getting the customer, we can choose not to take this into account, depending on whether we have this information on an individual level.

The result of this type of analysis is that your customers are divided into segments, with different customer life expectancy values.

In addition, the models can provide us with information about why certain segments decide to leave our business, teaching us a lot about the strengths and weaknesses of our enterprise. These analyses therefore tell us which customers are going to leave us as well as their value to us, and thus which customers we should actively try to retain.

The Operational Excellence Perspective

When an organization has a strong focus on operational excellence, it means it focuses on effective ways of producing and delivering services to its customers. If a business, for instance, has built its market position on being the cheapest, it stands to reason that intense focus will be on the optimization of internal processes.

Any organization will, of course, be trying to optimize its internal processes. This is a day-to-day management task. The real question is whether this constitutes a key competitive parameter for the enterprise.

Organizations for which the operational excellence approach makes sense are typically capital-heavy businesses with significant initial investments. This makes an efficient return on invested capital essential. A cement factory is a good example of an enterprise that is

unlikely to be using a product leadership strategy, since the product cannot differentiate itself technologically. A customer intimacy strategy does not seem relevant either since the assumption here would be that the relations one manufacturer is able to establish can be matched by other manufacturers of cement. Therefore, if the cement factory is to secure its survival in the long run, it has got to create competitive advantages built on its ability to produce and deliver its products better than the competition. It makes sense, therefore, to invest in technology in terms of the optimization of internal processes—but this is not a product excellence strategy, because the products delivered by the factory do not differentiate themselves technologically.

Other enterprises will be competing on economies of scale. That is, businesses will be focusing on a positive spiral: The more you produce, the cheaper it gets. Then you sell more, and then you can produce more. Airlines, hotels, general logistics and production companies are all good examples of this business model. In this case, it is not just a question of efficient production, but of the rate of utilization of capacity having a positive, cumulative effect.

Finally, we often see operational excellence initiatives in businesses right after a merger. These are common in situations where you work in a targeted way to create synergies. Overall, we are talking about organizations that have cost control as a key competitive parameter and that use the operational excellence approach. Market developments are, naturally, a determining factor, too. In a declining market, a business will try to minimize loss, which means a strong focus on costs. It's said that everyone can survive in a growth market, but it is in a negative market that businesses must prove their worth, by retaining their equities and market share via an ongoing adaptation of internal processes. At a strategic level, we can work with two types of information. First, and most obvious, is the measuring of target achievement of internal process as a result of existing strategies. That will tell us where we are. Equally important is knowing where we should have been, and therefore where we need more resources or competencies or both. This is information that is essential in understanding the organization's weaknesses, and which can often be described in more detail in the internal analysis, where we look at whether all the parts of the organization are pulling in the same direction.

The other type of information we should focus on is the organization's key figures. All organizations have this information because it measures exactly what we are focusing on in relation to operational excellence—that is, how to optimize processes in order to minimize the consumption of resources without losing customer loyalty.

This is measurement by financial results that we can work to optimize; we can use the information to compare ourselves with the external accounts of competing enterprises. This, of course, is of great interest when competing on price, as it is the underlying cost structure that shows our competitors' strong and weak points in this kind of competitive situation. On BA-support.com, we have entered a large number of key indicators along with directions about how to compute them and subsequently interpret them.

At an operational level you will typically find that process owners use tools like control charts and other Six Sigma or lean tools. The overall purpose is to minimize waste and variance in internal processes by making the processes stable and predictable, because those are the cheapest processes to manage from a performance management perspective. After all, it is only unstable and unpredictable processes that generate waste in terms of overwork, large inventories, and unexpected waiting time between process steps.

SUMMARY

In this chapter, we looked at different degrees of integration between the strategy and BA functions. No degree or level of integration is more correct than any other. It all depends on the organization's strategy, internal competencies, technological options, and competitive situation. You will be able to assess the level of integration between the two in your own organization and decide whether the actual level corresponds with the strategic level as well as whether the strategic level uses the full potential of information as a strategic resource.

The scenarios began with a lack of integration, which means that the BA function is not formally perceived as part of the strategy development process, and is therefore solely operating on an ad hoc basis—if indeed there is a BA function at all. The second scenario has the BA function in a purely reactive role in relation to the strategy function.

This means that objectives are specified for the rest of the organization, but that there is no feedback procedure from BA to strategy, in case there are significant deviations from meeting objectives at a functional level. The third scenario is characterized by a formalized feedback procedure from the BA function to the strategy function. This means that formalized procedures must be introduced to analyze target achievement on an ongoing basis to improve performance in individual departments, but also with the purpose of generating knowledge about the scope for strategic improvement. Finally, we presented a scenario in which information is perceived and used as a strategic resource. This requires that the people responsible for strategy formulation understand the competitive opportunities that can be derived from this information. Since strategic opportunities also depend on the way in which a business has decided to compete, we introduced a method to help you identify the relationship between your own competitive disciplines and the potentially most relevant information.

Three competitive disciplines were introduced. The first was product innovation. Business analytics can deliver information about which products create the business's income over its entire lifetime. In addition, BA can provide the organization with information about which product attributes it would be relevant to develop for which customer segments. The second competitive discipline was about strong customer relations, where BA can provide answers to the business about how to compose and develop individualized loyalty and income-generating customer programs. The third competitive discipline was the operational excellence approach, where BA can provide the business with information and knowledge about which of its processes to strengthen and develop in relation to its own requirements and in relation to the strengths of the competition.

